



LUG Light Factory Ltd.
Producer of Professional Lighting Fittings



PHOTOMETRIC REPORT

According to standards LM-79 and EN13032

1. ARTICLE DATA

REPORT NO.:	379/2022
TEST PROTOCOLS NO.:	6337, 7858, 7868, 7869
PLACE/DATE:	ZIELONA GÓRA, 09.09.2022
COMPILED BY:	KRZYSZTOF OLEK
APPROVED BY:	MARCIN BIAŁAS
ARTICLE TYPE:	LIGHT FITTING
ARTICLE NAME:	TRAFFIK LED ED 3450lm/740 IP66 O28 szary II klasa nr mod.001
ARTICLE NO:	130292.5L022.020.001
MANUFACTURER:	LUG LIGHT FACTORY
VERSION INFO:	CUSTOMIZED
LED MODULE:	1xLUG ML1822209.W740.01A 48 LED
LAMP IDENTIFICATION:	LED 4000K
LED DRIVER:	Osram Osram OT 40/170-240/1A0 1DIM NFC set to 530 mA
INPUT VOLTAGE/FREQUENCY:	220-240 V/50-60 Hz
LUMINAIRE DIMENSIONS:	L : 0.505 m / W : 0.230 m / H : 0.080 m
LIGHT OUTPUT DIMENSIONS:	L : 0.224 m / W : 0.184 m

2. PHOTOMETRIC AND ELECTRICAL PARAMETERS

LUMINOUS FLUX:	3474,37 lm
ACTIVE POWER:	27,16 W
EFFICIENCY:	127,9 lm/W
RMS SUPPLY CURRENT:	0,121 A
POWER FACTOR:	0,972
RMS SUPPLY VOLTAGE:	230,0 V
FREQUENCY:	50,0 Hz

3. ACCURACY

PHOTOMETRIC ACCURACY:	±10%
ELECTRICAL ACCURACY:	±5%

This report is based on test reports, calculations, and technical knowledge of laboratory.
This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products.

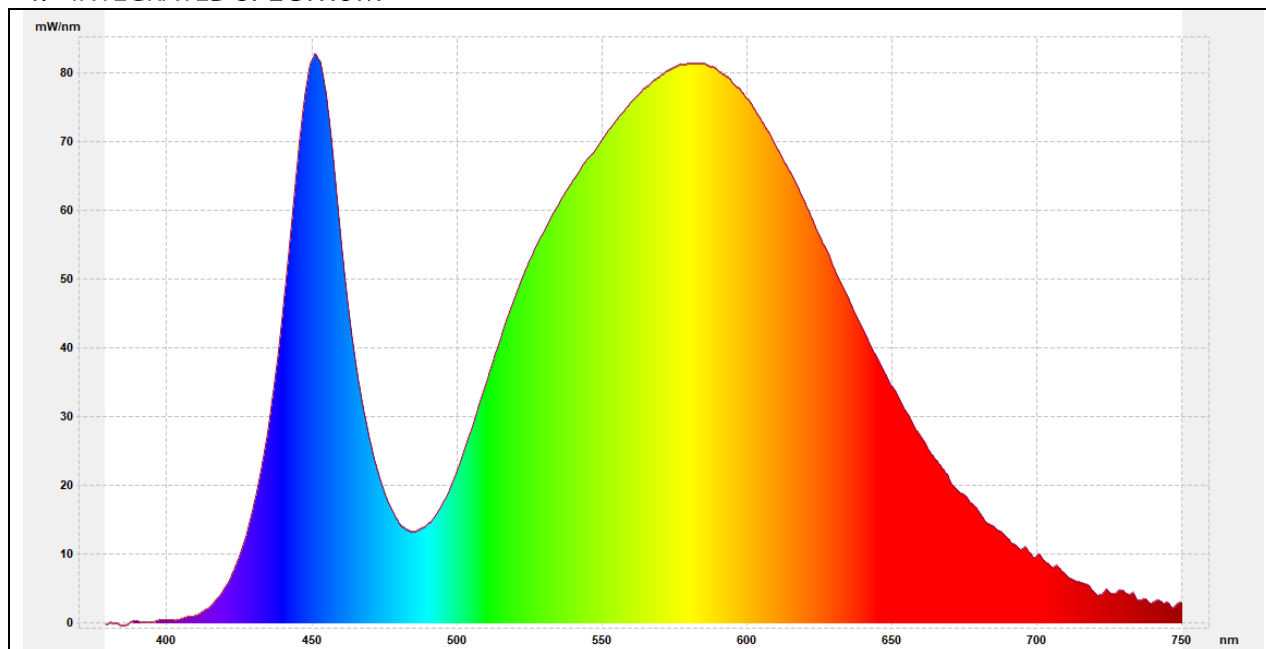


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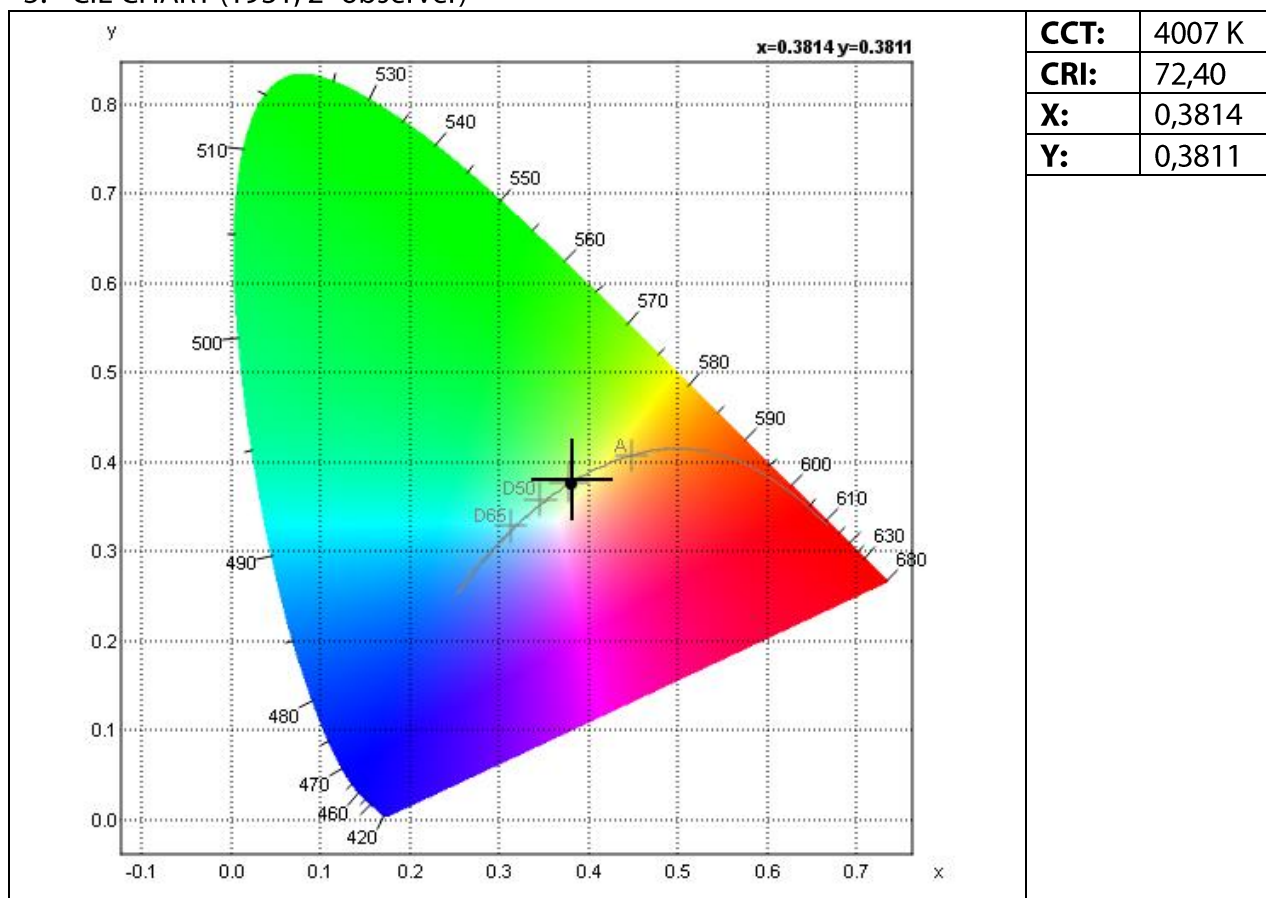
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4. INTEGRATED SPECTRUM



5. CIE CHART (1931, 2° observer)



LUG Light Factory Ltd.
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Poland, 65-127 Zielona Góra, Gorzowska 11
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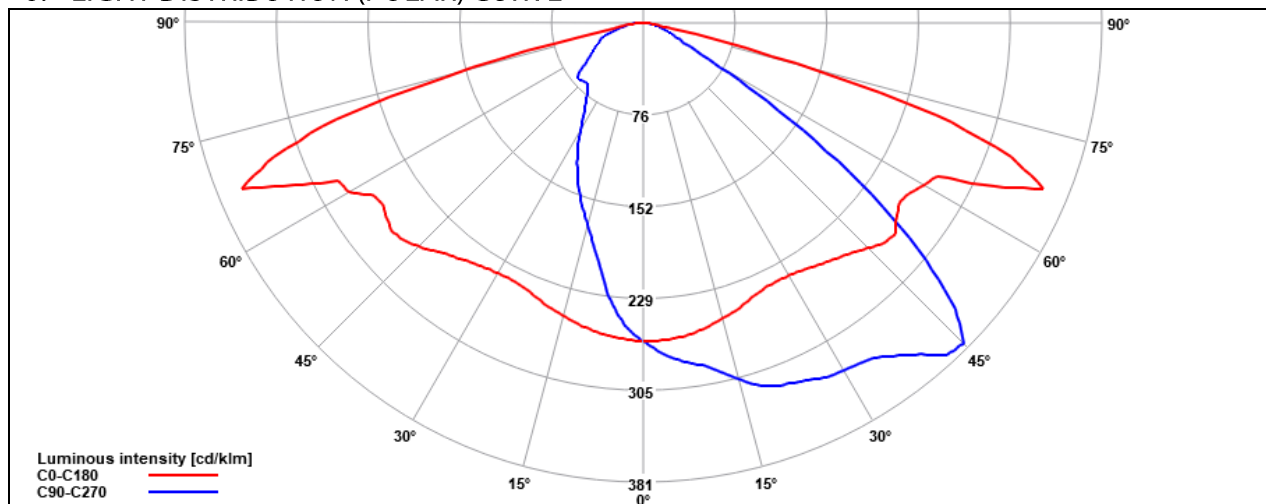
VAT No: PL9291785452, REGON: 080212116, Commercial Register (KRS) 0000290498, WEE E0001382WZ, Registered at: District Court of city Zielona Góra, VIII Commercial Department of the National Court Register, Share capital 29 000 000 PLN Bank account: Bank Zachodni WBK S.A. O/Zielona Góra 09 1090 1535 0000 0001 0784 5922

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6. LIGHT DISTRIBUTION (POLAR) CURVE



7. LUMINOUS INTENSITY DISTRIBUTION (cd/1000lm)

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°
0°	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80
2.5°	264,88	265,16	266,15	266,81	267,79	268,36	268,83	269,43	269,98	270,56	271,18	271,31
5°	264,08	265,14	266,67	268,25	269,62	270,86	272,14	273,28	274,12	275,54	276,38	277,21
7.5°	263,02	264,81	267,33	269,30	271,38	273,24	274,88	276,64	277,94	279,59	280,69	281,68
10°	260,88	263,55	266,64	269,70	272,16	274,64	276,99	279,17	281,36	283,00	284,20	285,43
12.5°	257,91	261,47	265,41	269,06	272,18	275,55	278,75	281,76	284,70	286,72	288,42	289,85
15°	254,96	259,37	263,83	267,98	272,01	276,23	280,48	284,27	287,73	290,43	293,07	295,22
17.5°	252,08	257,14	262,60	267,33	272,28	277,86	282,72	287,32	291,04	294,51	298,17	301,45
20°	248,54	254,84	260,85	266,81	273,16	279,72	285,59	290,79	295,21	299,45	303,15	307,53
22.5°	244,81	252,18	259,30	266,04	273,86	281,35	288,38	294,38	299,38	304,11	308,48	312,15
25°	242,67	250,95	258,76	266,52	275,01	283,21	290,78	297,84	303,29	307,95	312,15	315,63
27.5°	242,27	251,81	260,22	269,17	278,10	286,69	294,71	301,74	307,39	311,93	315,23	318,53
30°	242,81	254,07	263,22	272,92	282,92	291,96	299,90	306,54	311,49	315,22	318,54	322,28
32.5°	244,53	257,34	268,02	278,78	290,07	298,92	306,38	312,46	316,40	319,70	323,60	327,10
35°	247,71	261,83	273,43	286,04	297,86	307,13	313,98	319,26	323,66	328,16	332,15	334,48
37.5°	251,15	266,68	280,83	294,22	307,20	317,06	324,36	330,79	336,15	340,23	343,78	344,93
40°	254,54	272,48	289,27	304,30	318,33	330,20	340,08	348,23	353,73	357,86	361,44	362,53
42.5°	259,03	281,50	301,11	317,68	332,31	347,47	360,88	370,04	376,92	382,79	387,31	387,59
45°	265,24	293,86	314,96	329,92	348,45	367,80	383,16	396,34	407,08	414,77	417,95	413,68
47.5°	271,69	303,01	321,05	342,71	368,82	392,97	411,78	427,84	441,58	449,88	445,47	432,12
50°	273,75	300,39	327,21	358,42	391,35	418,70	440,41	459,44	474,00	477,01	460,17	433,12
52.5°	266,00	301,58	337,36	375,82	409,96	437,35	459,72	480,10	489,04	476,51	446,29	408,61
55°	260,57	305,73	347,24	387,53	420,15	446,46	469,31	484,19	480,72	454,86	416,62	369,91
57.5°	263,52	311,21	355,13	394,96	430,92	456,58	473,85	477,90	460,05	430,75	379,84	322,04
60°	270,38	314,69	360,42	414,06	456,07	477,73	481,58	472,24	448,47	401,99	334,49	266,75
62.5°	276,18	316,00	376,89	446,40	488,81	500,36	497,52	480,38	437,84	365,01	281,98	210,77
65°	322,45	363,54	428,88	493,78	530,38	547,70	539,53	493,55	416,56	321,89	229,76	159,20
67.5°	360,92	423,78	510,85	593,99	654,60	661,43	611,43	512,30	387,74	270,85	175,32	107,20



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70°	325,51	378,26	444,35	521,91	580,67	600,51	564,46	461,56	333,99	213,08	119,55	64,77
72.5°	255,31	297,65	359,24	433,78	501,34	532,40	496,69	389,18	264,03	150,89	77,83	35,99
75°	132,91	165,46	220,79	291,17	350,52	388,79	359,63	275,51	173,99	89,28	36,93	24,72
77.5°	24,39	34,71	61,87	100,93	142,75	168,17	165,84	124,40	80,69	41,14	21,89	17,44
80°	7,61	7,76	9,12	13,27	24,43	35,07	35,97	33,29	28,41	19,42	14,60	11,24
82.5°	4,38	4,00	5,04	5,91	7,89	11,51	14,90	15,75	15,38	11,76	8,58	6,52
85°	1,65	1,64	1,90	2,10	2,72	3,88	5,48	6,27	6,63	5,35	4,28	3,00
87.5°	0,51	0,17	0,48	0,53	0,39	0,12	0,70	0,82	1,27	0,88	0,44	0,38
90°	0,05	0,00	0,00	0,00	0,00	0,17	0,00	0,00	0,19	0,08	0,03	0,00

	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°	110°	115°
0°	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80
2.5°	271,97	272,01	272,46	272,34	272,91	272,93	272,84	272,92	272,73	272,34	272,22	271,75
5°	278,06	278,51	278,96	279,16	279,91	279,81	280,02	279,68	279,76	279,09	278,55	278,07
7.5°	282,31	282,82	283,54	283,76	284,42	284,25	284,72	284,24	284,05	283,21	282,63	281,78
10°	286,35	287,29	287,93	288,44	288,92	289,10	289,26	289,06	288,43	287,44	286,70	285,72
12.5°	291,33	292,90	294,21	295,11	296,27	296,49	296,95	296,54	295,65	294,28	292,83	291,43
15°	297,62	300,46	302,56	303,88	305,74	306,34	306,67	305,86	305,18	303,42	301,15	298,84
17.5°	304,77	308,14	311,00	312,68	314,76	315,20	315,79	315,10	313,84	311,98	309,39	306,48
20°	311,51	314,74	317,81	319,57	321,05	321,27	321,78	321,11	320,02	318,32	315,83	312,71
22.5°	316,18	319,05	321,69	323,17	323,94	324,14	324,06	323,41	322,54	321,24	319,47	316,55
25°	319,52	322,29	324,83	326,25	327,10	327,59	327,42	327,19	325,70	324,04	321,94	319,10
27.5°	322,40	325,64	328,08	329,44	331,15	331,83	332,04	330,83	329,88	327,93	325,30	322,40
30°	325,81	328,78	331,27	332,48	333,68	334,02	334,43	333,35	332,36	330,44	327,97	325,17
32.5°	330,00	332,54	335,38	334,96	335,59	335,10	335,28	334,78	334,24	332,44	331,24	328,53
35°	336,28	337,92	339,77	339,63	340,09	339,41	339,44	338,84	338,87	338,12	336,98	335,23
37.5°	345,99	347,14	347,94	347,35	347,99	347,41	348,84	347,60	347,68	347,66	346,73	346,70
40°	363,16	363,45	361,54	359,22	359,83	359,84	359,76	361,09	361,51	361,09	362,45	364,19
42.5°	386,40	382,37	377,65	373,89	373,87	373,43	374,35	375,16	376,21	375,88	378,82	383,46
45°	407,37	397,57	389,48	382,39	379,48	377,47	377,38	377,83	379,60	381,21	387,05	395,38
47.5°	415,61	397,97	383,15	370,09	360,96	355,09	353,07	353,41	358,04	365,66	376,28	388,80
50°	404,76	374,94	350,26	331,34	317,34	310,26	307,54	308,53	313,78	324,35	339,23	360,47
52.5°	369,98	332,76	303,08	280,79	264,55	254,26	251,66	252,13	259,62	273,95	291,96	317,41
55°	323,43	281,09	246,37	219,34	200,70	189,50	186,37	187,09	196,10	212,27	234,87	265,53
57.5°	267,07	219,25	182,19	155,12	137,26	127,42	122,37	125,77	134,03	150,10	173,42	206,18
60°	208,68	161,73	126,98	101,77	86,79	77,80	74,57	77,20	85,07	99,42	122,06	152,79
62.5°	154,82	111,36	80,33	62,10	52,22	47,40	44,63	47,38	51,57	61,54	78,32	106,38
65°	105,92	69,90	49,60	39,78	35,45	33,54	32,37	33,28	34,83	39,71	49,05	67,77
67.5°	65,03	42,42	34,94	30,81	28,20	27,58	27,02	27,57	27,92	30,48	34,19	42,10
70°	38,38	30,63	27,28	24,97	23,25	22,92	22,26	22,76	23,17	24,36	27,02	30,32
72.5°	27,10	23,53	22,00	20,02	19,20	18,51	17,90	18,43	18,85	19,67	21,60	23,71
75°	20,18	18,09	17,33	16,20	15,46	14,90	14,04	14,75	15,09	15,95	16,95	18,02
77.5°	14,55	13,04	13,11	13,00	11,26	10,50	9,85	10,25	10,97	12,67	13,09	13,62
80°	9,79	9,05	8,70	8,14	7,16	6,24	5,80	6,11	6,74	7,84	8,68	9,38
82.5°	5,85	5,33	4,84	4,17	3,40	3,26	3,11	3,33	3,29	3,97	4,88	5,64
85°	2,59	2,47	1,75	1,41	1,19	1,27	0,98	1,35	1,26	1,26	2,09	2,34
87.5°	0,34	0,30	0,24	0,19	0,21	0,18	0,05	0,39	0,31	0,00	0,56	0,36

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 Poland, 65-127 Zielona Góra, Gorzowska 11
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VAT No: PL9291785452, REGON: 080212116, Commercial Register
 (KRS) 0000290498, WEE E0001382WZ, Registered at: District Court
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 Court Register, Share capital 29 000 000 PLN Bank account:
 Bank Zachodni WBK S.A. O/Zielona Góra 09 1090 1535 0000 0001 0784 5922



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90°	0,00	0,09	0,05	0,06	0,00	0,05	0,00	0,33	0,00	0,03	0,00	0,00
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	120°	125°	130°	135°	140°	145°	150°	155°	160°	165°	170°	175°
0°	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80
2.5°	271,48	271,35	270,65	269,79	269,64	268,95	268,15	267,58	267,06	266,18	265,50	264,82
5°	277,41	276,56	275,70	274,84	273,62	272,64	271,40	269,99	268,83	267,10	265,76	264,21
7.5°	281,31	280,44	279,57	278,08	276,88	275,59	273,61	271,96	270,16	267,82	265,90	263,50
10°	284,86	283,23	282,07	280,61	279,10	277,71	275,33	273,16	270,76	268,19	265,50	262,04
12.5°	289,44	287,44	285,81	283,85	281,76	279,63	276,66	273,48	270,59	267,20	263,66	259,98
15°	296,05	293,20	290,50	287,55	284,45	281,61	278,13	274,06	270,05	265,86	262,22	257,66
17.5°	303,17	299,10	295,83	291,85	287,93	284,54	279,99	275,12	270,15	265,42	260,60	255,66
20°	309,19	304,82	300,55	296,44	291,95	287,29	282,17	276,79	270,49	264,50	258,78	252,89
22.5°	312,81	308,91	304,73	300,32	295,42	290,22	284,32	277,61	270,60	263,47	256,53	250,33
25°	315,53	311,28	307,55	303,07	298,34	292,96	286,16	278,67	271,00	263,22	255,68	248,93
27.5°	318,61	314,09	309,85	305,49	301,00	296,25	289,63	281,78	273,62	265,54	257,48	249,77
30°	321,83	317,49	312,80	308,16	304,20	300,15	293,89	286,37	278,13	269,13	260,25	251,77
32.5°	325,77	322,15	318,08	313,38	309,22	304,92	299,21	292,37	284,22	274,41	264,05	254,55
35°	332,84	330,25	326,92	322,43	317,57	312,59	306,27	299,88	291,80	280,77	269,53	259,08
37.5°	345,60	343,19	341,11	336,46	331,40	325,92	317,95	310,08	301,10	289,40	276,44	264,14
40°	364,36	362,60	361,68	357,40	352,14	346,11	336,65	325,59	314,05	300,59	286,39	271,18
42.5°	387,09	387,76	387,35	383,62	378,05	369,59	359,08	346,14	330,65	314,73	298,04	279,86
45°	404,26	410,51	415,10	413,28	407,61	398,11	383,01	367,69	350,35	331,68	313,78	291,57
47.5°	405,72	422,11	436,77	442,50	437,54	427,43	410,90	391,55	369,34	345,71	325,18	302,02
50°	386,57	413,98	442,37	462,98	464,44	455,23	437,71	415,92	389,47	359,64	331,17	304,67
52.5°	349,66	385,88	422,58	457,67	476,40	474,89	467,20	437,47	408,84	374,93	341,04	305,83
55°	304,28	347,88	394,38	433,80	466,53	480,33	470,16	450,61	422,62	388,81	351,49	312,18
57.5°	250,22	302,13	359,26	411,68	445,84	471,26	473,11	460,04	435,95	399,05	360,02	322,72
60°	196,10	251,10	317,70	385,64	438,18	465,59	478,28	477,27	459,86	421,15	367,00	323,47
62.5°	146,29	198,98	268,90	350,57	426,85	476,56	497,92	502,53	493,50	457,20	392,06	327,91
65°	101,00	150,32	218,36	308,43	407,00	491,11	543,05	556,76	544,79	507,46	444,93	374,10
67.5°	63,07	101,49	165,96	258,70	376,46	504,68	603,55	650,50	644,85	591,75	508,59	424,88
70°	38,19	61,87	112,78	203,87	323,67	458,27	571,69	613,95	590,86	529,58	448,85	377,21
72.5°	26,77	35,19	68,20	144,57	257,64	386,65	504,20	545,62	513,25	448,39	367,85	303,27
75°	20,11	23,98	35,29	83,81	164,06	261,02	352,73	382,68	345,73	287,63	216,17	160,74
77.5°	14,48	16,85	21,12	37,15	72,63	108,29	155,37	157,68	134,25	93,52	56,32	33,23
80°	9,59	11,27	14,14	19,19	27,45	32,27	37,49	36,53	25,29	13,85	9,47	7,99
82.5°	5,88	6,72	8,59	11,82	15,04	17,15	16,85	13,18	8,65	5,73	4,95	4,30
85°	2,66	3,13	4,05	5,34	7,09	7,13	6,88	4,48	2,83	1,98	2,09	1,76
87.5°	0,61	0,42	0,61	0,87	1,24	0,82	0,96	0,57	0,40	0,13	0,50	0,15
90°	0,00	0,00	0,00	0,00	0,05	0,00	0,03	0,00	0,03	0,15	0,00	0,04

	180°	185°	190°	195°	200°	205°	210°	215°	220°	225°	230°	235°
0°	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80
2.5°	263,95	263,30	262,59	262,09	261,48	260,56	259,89	259,39	258,89	258,18	257,92	257,21
5°	262,53	260,82	259,36	258,11	256,58	254,95	253,39	252,12	250,68	249,28	248,30	247,11
7.5°	260,74	258,34	256,04	253,78	251,15	248,53	245,97	243,64	240,81	238,43	235,93	233,57
10°	258,52	255,35	251,87	248,51	244,77	241,04	236,97	233,23	229,49	225,41	221,70	217,96

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VAT No: PL9291785452, REGON: 080212116, Commercial Register
(KRS) 0000290498, WEE E0001382WZ, Registered at: District Court
of city Zielona Góra, VIII Commercial Department of the National
Court Register, Share capital 29 000 000 PLN Bank account:
Bank Zachodni WBK S.A. O/Zielona Góra 09 1090 1535 0000 0001 0784 5922



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12.5°	255,60	251,60	246,82	242,28	237,31	232,44	227,55	222,25	216,93	211,60	206,59	201,87
15°	252,81	247,70	242,10	236,50	230,07	224,00	217,67	210,97	204,27	197,76	192,14	186,99
17.5°	250,09	244,09	237,19	230,14	222,93	215,01	207,53	199,01	191,32	184,16	178,43	174,39
20°	246,55	239,89	231,75	223,92	215,21	206,05	196,93	187,59	179,03	172,14	167,22	162,78
22.5°	242,96	234,82	225,64	216,43	206,37	196,21	185,81	176,07	167,65	160,73	155,71	151,66
25°	240,72	231,13	220,88	209,84	198,25	186,33	174,64	164,47	156,21	149,57	144,38	140,63
27.5°	240,00	229,37	217,42	204,50	190,77	177,47	164,52	153,51	144,69	137,99	133,01	129,22
30°	240,51	228,35	214,66	199,54	183,68	168,49	154,46	142,66	133,26	126,30	120,89	116,60
32.5°	242,07	228,38	212,84	195,76	177,13	160,13	144,91	132,24	122,27	114,28	108,61	104,10
35°	244,44	229,25	211,93	191,90	170,83	151,59	135,51	121,64	110,67	102,39	96,54	92,00
37.5°	247,76	230,33	210,82	188,15	164,54	143,79	126,51	111,58	99,96	91,52	85,41	81,04
40°	251,85	231,17	209,16	183,67	158,07	135,61	116,85	101,68	90,41	81,53	75,57	72,06
42.5°	257,16	232,80	206,62	178,79	150,61	127,37	107,94	92,92	81,89	73,55	68,23	64,63
45°	263,44	235,28	205,00	173,86	142,89	119,21	100,51	87,04	76,90	69,95	63,89	60,27
47.5°	268,39	236,65	202,72	167,57	134,28	111,13	94,49	83,59	76,33	70,43	64,52	60,68
50°	271,20	234,20	197,73	160,72	125,84	104,15	90,82	84,23	80,09	75,38	68,72	62,47
52.5°	267,97	228,35	190,15	152,32	117,24	98,13	89,20	87,37	85,97	80,89	71,24	61,54
55°	263,38	220,58	180,31	142,53	107,92	93,04	89,55	91,71	90,56	79,79	67,89	60,55
57.5°	266,49	216,05	172,93	133,00	99,03	88,37	89,60	93,94	88,01	71,92	65,82	62,64
60°	282,14	218,88	168,07	124,70	91,37	83,71	87,54	89,79	76,14	64,99	71,06	72,02
62.5°	284,93	234,81	172,77	122,10	85,04	77,94	81,05	76,70	64,73	60,07	66,61	62,64
65°	319,45	268,94	204,25	135,48	84,80	70,01	68,27	61,87	54,93	54,56	55,85	50,39
67.5°	360,73	301,17	220,43	132,89	73,15	57,39	54,68	50,00	45,17	45,83	46,39	42,75
70°	326,17	270,92	197,26	114,15	53,84	43,94	42,42	39,20	36,64	38,07	39,57	36,91
72.5°	267,19	223,89	160,03	92,13	40,09	33,75	32,78	31,48	30,47	32,33	33,36	30,97
75°	146,57	122,79	81,44	42,49	25,54	24,64	24,38	24,96	26,51	26,94	26,38	24,86
77.5°	28,92	23,30	15,21	13,27	13,71	14,41	15,79	16,91	17,22	18,71	21,47	18,42
80°	8,19	8,07	8,00	7,95	8,19	8,03	8,53	9,53	10,88	11,56	12,11	12,83
82.5°	4,50	4,62	4,65	4,22	4,45	4,36	4,14	4,36	5,40	6,52	6,31	6,82
85°	2,06	2,14	2,09	1,77	1,74	1,96	1,87	1,61	1,82	2,64	2,78	2,88
87.5°	0,37	0,37	0,46	0,29	0,17	0,43	0,55	0,32	0,19	0,69	0,46	0,44
90°	0,00	0,00	0,06	0,00	0,00	0,00	0,05	0,00	0,00	0,22	0,00	0,00

	240°	245°	250°	255°	260°	265°	270°	275°	280°	285°	290°	295°
0°	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80
2.5°	256,97	256,54	256,37	256,26	256,02	255,94	256,13	256,15	256,32	256,26	256,56	257,12
5°	246,00	245,15	244,34	243,76	243,57	243,25	243,04	243,07	243,98	244,10	244,89	245,74
7.5°	231,46	229,54	228,12	227,15	226,12	225,62	225,72	225,77	226,39	227,61	228,86	230,28
10°	214,78	211,68	209,59	207,69	206,89	205,78	205,95	205,95	207,16	208,28	210,22	212,76
12.5°	197,95	194,53	192,11	190,13	188,87	188,30	188,56	188,62	189,67	190,95	193,24	195,98
15°	183,46	180,28	178,30	176,67	175,79	175,10	175,07	175,39	176,24	177,22	179,07	181,70
17.5°	170,86	168,41	166,48	164,96	164,33	163,97	163,64	163,78	164,73	165,61	167,47	169,44
20°	159,94	157,43	155,68	154,22	153,19	152,71	152,41	152,73	153,43	154,62	156,38	158,23
22.5°	148,49	146,19	144,21	142,78	141,55	140,98	140,76	140,82	141,55	142,69	144,36	146,30
25°	137,47	134,87	132,92	131,14	130,01	129,31	128,90	128,94	129,68	130,76	132,62	134,97
27.5°	125,64	122,84	120,41	118,61	117,31	116,38	116,32	116,40	117,19	118,38	120,25	122,68

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VAT No: PL9291785452, REGON: 080212116, Commercial Register (KRS) 0000290498, WEE E0001382WZ, Registered at: District Court of city Zielona Góra, VIII Commercial Department of the National Court Register, Share capital 29 000 000 PLN Bank account: Bank Zachodni WBK S.A. O/Zielona Góra 09 1090 1535 0000 0001 0784 5922



LUG®

LUG Light Factory Ltd.
Producer of Professional Lighting Fittings



30°	112,88	110,17	107,63	105,77	103,77	103,09	102,56	103,15	104,04	105,66	107,77	109,84
32.5°	100,62	97,66	95,53	93,90	91,94	91,05	90,80	91,25	92,18	93,70	95,71	98,02
35°	88,48	86,08	84,32	82,87	82,54	82,48	82,14	82,36	82,39	83,00	84,06	85,99
37.5°	78,21	76,05	75,25	75,50	75,73	75,92	75,96	75,91	75,64	75,69	75,23	76,22
40°	69,54	68,63	68,90	70,22	70,68	70,62	70,46	70,48	70,45	70,04	68,97	68,79
42.5°	63,01	63,50	64,57	66,54	67,43	68,36	68,39	67,86	67,06	65,53	64,41	63,22
45°	60,13	61,80	64,19	66,44	68,14	69,21	69,50	68,93	67,53	65,78	63,57	61,32
47.5°	59,49	61,73	64,95	68,45	70,08	70,63	70,77	70,20	69,41	67,02	63,73	60,47
50°	60,22	62,26	65,40	69,17	70,61	70,85	70,74	70,18	68,91	66,93	63,76	60,16
52.5°	60,24	63,30	65,11	65,75	64,85	64,11	63,92	64,14	64,53	65,20	63,48	60,51
55°	59,39	58,70	58,51	58,49	57,61	57,00	56,64	56,84	57,08	58,14	58,27	58,45
57.5°	58,54	53,71	52,94	52,91	52,42	51,72	51,37	51,70	52,00	52,53	53,02	54,29
60°	59,33	49,75	48,32	48,54	48,21	47,53	47,54	47,39	47,99	48,09	48,54	51,70
62.5°	54,58	45,72	44,43	44,47	44,51	43,89	44,08	43,84	44,01	44,34	44,65	46,93
65°	45,76	40,99	40,66	40,85	40,78	40,47	40,25	40,29	40,58	40,26	40,62	41,56
67.5°	39,45	37,34	37,09	37,03	37,60	37,74	37,85	37,52	37,14	36,52	36,61	37,28
70°	34,34	32,91	32,81	32,79	33,74	33,87	33,53	33,27	33,06	32,24	32,51	32,96
72.5°	29,47	29,12	27,82	27,71	27,86	28,07	27,59	27,88	27,43	26,79	27,64	29,46
75°	23,84	22,79	21,73	21,57	21,83	21,72	21,43	21,12	21,40	21,37	21,43	23,10
77.5°	17,72	17,06	16,31	15,70	15,53	16,22	16,39	15,77	15,41	15,45	15,95	17,13
80°	12,29	12,39	11,64	10,64	10,86	11,24	10,76	10,98	10,82	10,30	11,01	12,08
82.5°	7,30	8,28	7,87	6,71	6,72	6,59	7,09	6,69	6,75	6,49	7,27	8,02
85°	3,28	3,96	3,77	3,36	3,31	3,09	3,40	3,04	2,87	3,27	3,65	3,67
87.5°	0,68	0,86	1,12	1,03	0,54	0,66	0,57	0,70	0,54	0,85	0,91	0,66
90°	0,03	0,00	0,01	0,01	0,11	0,07	0,00	0,23	0,00	0,00	0,00	0,00

	300°	305°	310°	315°	320°	325°	330°	335°	340°	345°	350°	355°
0°	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80	264,80
2.5°	257,46	257,74	258,14	258,94	259,36	259,92	260,44	261,12	262,31	262,42	263,67	263,94
5°	246,71	247,67	249,01	250,70	252,00	253,13	254,81	256,40	258,17	259,76	261,18	262,62
7.5°	232,35	234,56	237,08	239,64	242,28	244,86	247,66	250,50	253,49	256,12	258,36	260,81
10°	215,87	218,91	222,99	226,79	230,84	234,65	238,86	243,15	247,07	250,93	254,63	258,00
12.5°	199,56	203,40	208,26	213,23	218,50	223,62	229,20	234,58	239,68	244,95	249,75	254,19
15°	185,13	188,95	194,20	199,85	205,99	212,29	219,19	226,09	232,65	238,92	244,91	250,33
17.5°	172,28	175,84	180,97	186,64	193,75	200,86	209,12	217,12	225,29	232,68	239,84	246,47
20°	161,02	164,02	169,28	174,92	182,26	190,10	199,26	208,21	217,54	226,09	234,05	242,03
22.5°	149,21	152,72	157,67	163,48	170,74	178,85	188,62	198,51	209,19	218,85	228,14	237,32
25°	137,57	140,97	146,16	151,57	158,90	167,28	177,76	188,88	200,73	212,38	223,48	233,74
27.5°	125,46	129,14	134,12	139,82	147,21	155,86	167,10	179,84	193,34	207,08	219,73	231,77
30°	113,12	117,03	122,07	127,77	135,17	144,86	156,63	170,39	186,23	202,35	216,66	230,50
32.5°	100,89	104,23	109,69	115,75	123,99	134,12	146,90	161,75	179,36	197,57	214,66	230,27
35°	88,88	92,08	97,67	103,97	112,38	123,16	136,80	153,14	172,44	193,28	213,10	231,09
37.5°	78,35	81,56	86,28	92,80	101,35	112,41	127,21	144,51	165,87	189,22	212,02	232,74
40°	69,72	72,39	76,90	82,74	91,39	102,17	117,31	135,66	158,32	184,63	210,28	233,66
42.5°	62,84	64,53	68,73	74,94	82,97	93,78	107,64	126,43	150,40	179,59	208,29	234,97
45°	59,60	59,81	64,06	70,35	77,84	87,16	99,64	116,74	142,14	174,20	206,71	236,60
47.5°	58,95	59,57	63,70	69,66	76,63	83,36	92,88	107,82	133,05	167,96	203,78	237,84

LUG Light Factory Ltd.
 Producer of Professional Lighting Fittings
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VAT No: PL9291785452, REGON: 080212116, Commercial Register
 (KRS) 0000290498, WEE E0001382WZ, Registered at: District Court
 of city Zielona Góra, VIII Commercial Department of the National
 Court Register, Share capital 29 000 000 PLN Bank account:
 Bank Zachodni WBK S.A. O/Zielona Góra 09 1090 1535 0000 0001 0784 5922

**LUG®****LUG Light Factory Ltd.**
Producer of Professional Lighting Fittings

50°	58,63	61,60	67,24	73,05	78,97	83,49	88,31	100,19	123,93	160,96	198,91	236,74
52.5°	57,65	60,90	70,08	78,32	83,90	86,51	86,81	93,56	114,49	151,86	191,42	231,32
55°	58,68	59,67	68,58	80,35	88,71	90,47	87,42	89,13	105,08	142,02	181,22	221,15
57.5°	58,72	64,59	68,35	77,78	89,38	92,66	88,21	85,46	96,62	132,87	173,26	215,73
60°	65,42	73,45	73,59	71,22	80,75	88,40	86,37	82,04	89,41	124,88	167,95	216,35
62.5°	59,58	65,17	68,71	64,84	68,98	77,35	79,28	76,40	83,35	120,40	169,57	229,06
65°	46,59	53,98	58,95	58,20	57,56	62,17	66,41	67,18	81,22	131,72	199,77	263,72
67.5°	39,52	43,83	48,64	48,83	47,97	49,98	52,66	54,72	71,99	133,76	224,11	303,44
70°	34,65	37,24	40,47	39,28	38,31	39,18	40,87	41,75	53,63	118,74	202,93	275,98
72.5°	29,40	31,08	33,14	31,36	30,59	30,69	32,77	32,82	38,45	89,86	157,55	220,37
75°	23,98	24,85	25,45	26,34	27,68	25,34	24,39	24,05	25,26	42,45	82,06	124,66
77.5°	18,06	18,42	20,94	19,91	17,29	16,35	15,54	14,27	13,80	13,65	16,26	25,49
80°	12,34	12,75	12,12	11,08	10,20	9,31	8,44	7,95	8,03	8,18	7,70	7,86
82.5°	7,14	6,57	6,11	6,08	5,29	4,40	4,20	4,25	4,29	4,45	4,45	4,38
85°	3,14	2,72	2,59	2,45	2,19	2,00	1,90	1,91	1,83	1,95	1,69	1,91
87.5°	0,50	0,48	0,20	0,34	0,61	0,61	0,46	0,42	0,15	0,42	0,29	0,35
90°	0,00	0,00	0,00	0,00	0,00	0,25	0,33	0,15	0,00	0,34	0,00	0,00

F – 09D/POL - 1	Nr wydania: 3	Data wydania: 11.02.2020	Strona 1 / 4
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TEST PROTOCOL

LUG Light Factory Ltd ul. Gorzowska 11 65-127 Zielona Góra, POLAND KRS 0000290498 REGON 080212116 NIP PL 929-17-85-452		LUG Testing Laboratory address ul. Nowa 7 66-002 Nowy Kisielin, POLAND		TEST SPECIFICATION – STANDARDS: PN – EN 60598-1:2015	
Test Report No. BT_13_066_21		Tested by: Robert Tracz		 Nr.TSP-17025-LB-001.00	
Sample No. 512/1/21		Compiled by: Robert Tracz			
Applicant name: P.Rybski LLU DEPARTMENT LUG LIGHT FACTORY		Approved by: Robert Tracz			
Tested from: 22.12.2021		Product type:		LUMINAIRE	
Through: 27.12.2021		Model name:		TRAFFIK R LED ED 79W 12000lm 4000K	
Index:					
Power [W]:					
IP Degree:					
Ratings:		220-240V /50/60Hz			
Type of protection:		CL I			
Group:		STREET LIGHTING - OUTSIDE			
This protocol shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products.					

☒ Thermal tests

1. COMPONENT LIST

No.	Component	Producer/Model/Type	Parameters	Standard/Mark
1.	LED DRIVER	OSRAM OPTOTRONIC OT 110/170-240/1A0 1DIMLT2 G1 CE	Tc=85°C; Ta=-40÷55°C; set on 525mA	ENEC10
2.	LED MODULE	LUG ML1924108W740-01A	Tc=85°C;	CE

2. POSSIBLE TEST CASE VERDITS:

Test case does not apply to the test object : N/A (Not Applicable)
 Test object does meet the requirement : P (Pass)
 Test object does not meet the requirement : F (Fail)

F – 09D/POL - 1	Nr wydania: 03	Data wydania: 11.02.2020	Strona 2 / 4
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3. TEST PROGRAM

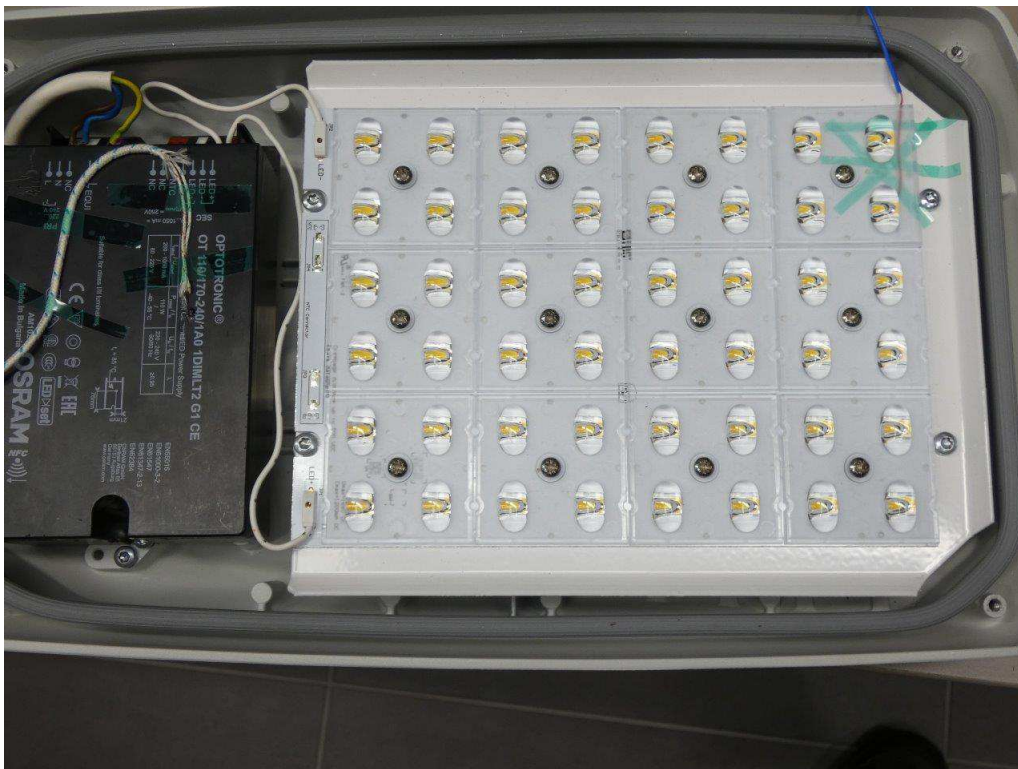
@25°C 525mA

TABLE: TEMPERATURE MEASUREMENTS, THERMAL TEST OF SECTION 12						
Type of reference:						
Lamp used:				LUG ML1924108W740--01A		
Lamp control gear used:				OSRAM OPTOTRONIC OT 110/170-240/1A0 1DIMLT2 G1 CE		
Mounting position of luminaire:				ON THE POLE		
Supply wattage (W):				76,1		
Supply current (A):				0,324		
Power factor:				0,980		
Table: measured temperatures for ta =25 °C						
- abnormal operating mode				N/A		
- test 1: rated voltage:				240V		
- test 2: 1,06 times rated voltage or 1,05 times rated wattage:				--		
- test 3: Load on wiring to socket-outlet, 1,06 voltage or 1,05 times wattage:				--		
- test 4: 1,1 times rated voltage or 1,05 times rated wattage :				--		
Through wiring or looping-in wiring loaded by a current of A during the test:				--		
Temperature measurements, (°C)						
Part tested	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED DRIVER	55,4			85		
LED MODULE	73,2			85		
SUPPLEMENTARY INFORMATION : test results meets requirements;						

4. LIST OF EQUIPMENT

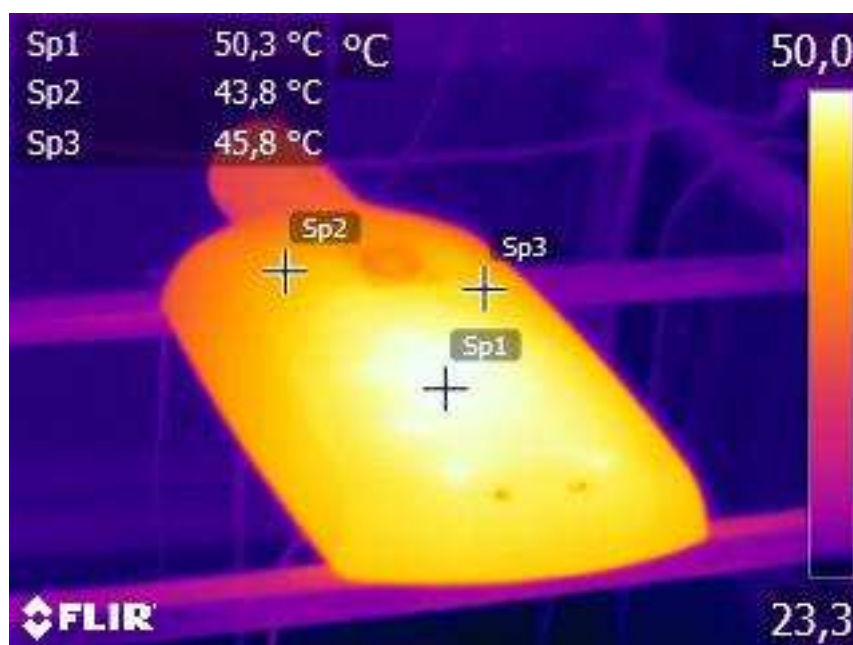
SPECIFICATION OF MEASURING APPARATUS USED IN TESTS					
No.	EQUIPMENT	PRODUCER/TYPE	SERIES	MARK	USED
1.	AC PROGRAMMABLE POWER	ITECH ELECTRONIC IT73	602130010726850004	47/LAB/ZL	☒
2.	DIGITAL THERMOMETER 1	LUTRON	288855	44/LAB/TM	☒
3.	DIGITAL THERMOMETER 2	LUTRON	1.416488	49/LAB/TM	☐
4.	DIGITAL MULTIMETER	TEKTRONIX	2475006	42/LAB/DM	☐
5.	DIGITAL MULTIMETER	TEKTRONIX	2566126	43/LAB/DM	☐
6.	SYSTEM ENERGY MULTIMETER	METRA HIT ENERGY		25/LAB/MK	☐
7.	SYSTEM ENERGY MULTIMETER	EVERFINE	G118829CD1351123	53/LAB/DPM	☐
8.	THERMAL IMAGING CAMERA	FLIR E50	49037600	41/LAB/KTW	☒

5. DETAILS IMAGES (PHOTOS)





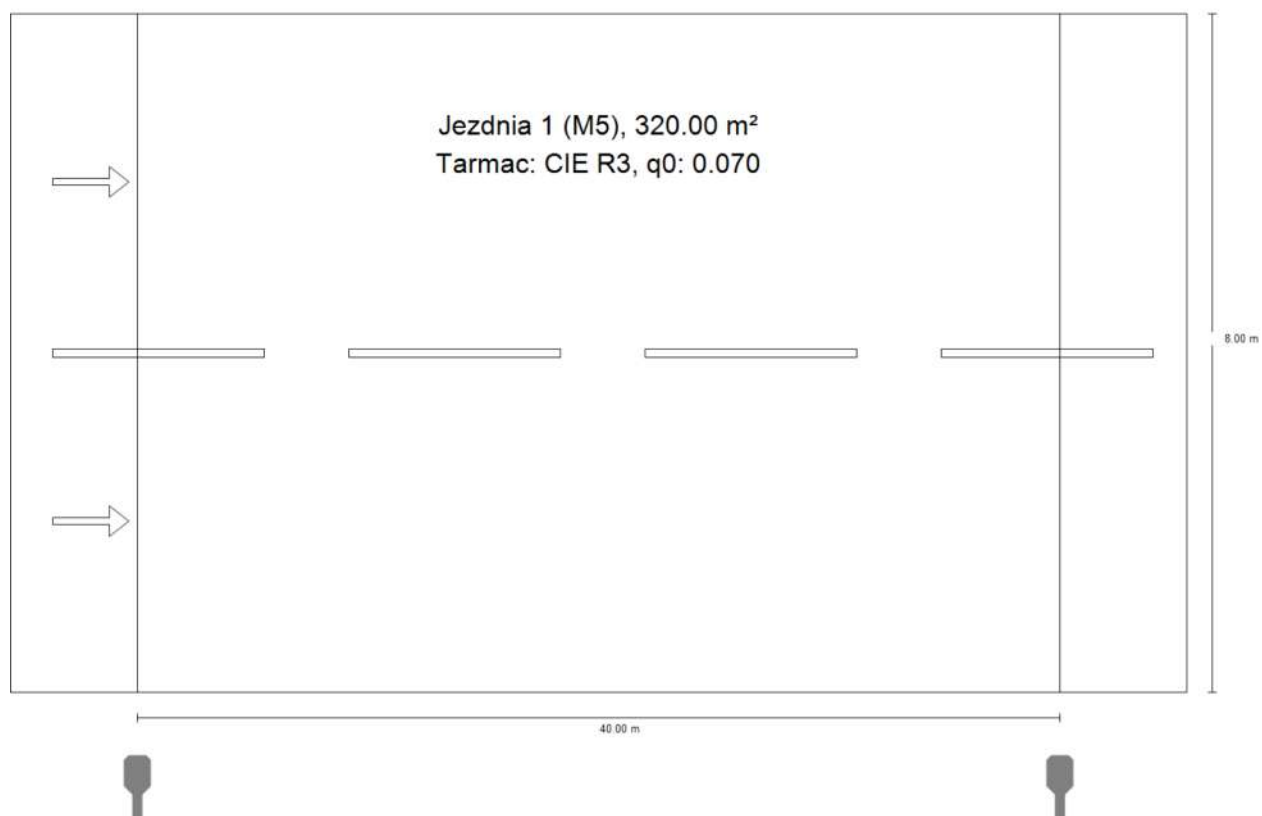
6. DETAILS IMAGES (TERMOGRAMS)



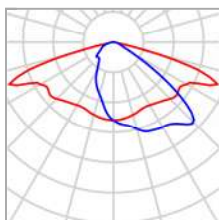


Borogani

Summary (according to EN 13201:2015)



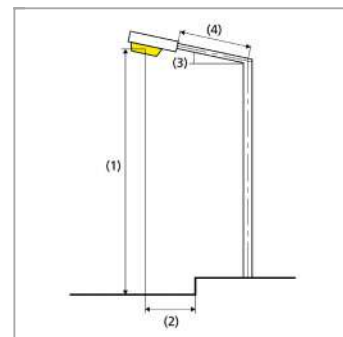
Summary (according to EN 13201:2015)



Manufacturer	LUG Light Factory	P	55.0 W
Article name	TRAFFIK LED ED 7200lm/740 IP66 O28 szary II klasa	Φ_{Lamp}	7200 lm
		$\Phi_{\text{Luminaire}}$	7200 lm
Fitting	1x LED 4000K	η	100.00 %

TRAFFIK LED ED 7200lm/740 IP66 O28 szary II klasa (single side bottom)

Pole distance	40.000 m
(1) Light spot height	8.000 m
(2) Light point overhang	-1.000 m
(3) Boom inclination	0.0°
(4) Boom length	0.500 m
Annual operating hours	4000 h: 100.0 %, 55.0 W
Consumption	1375.0 W/km
ULR / ULOR	0.00 / 0.00
Max. luminous intensities	≥ 70°: 594 cd/klm
Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.	≥ 80°: 37.4 cd/klm ≥ 90°: 0.00 cd/klm
Luminous intensity class	G*3
The luminous intensity values in [cd/klm] for calculation of the luminous intensity class refer to the luminaire luminous flux according to EN 13201:2015.	
Glare index class	D.5



Summary (according to EN 13201:2015)

Results for valuation fields

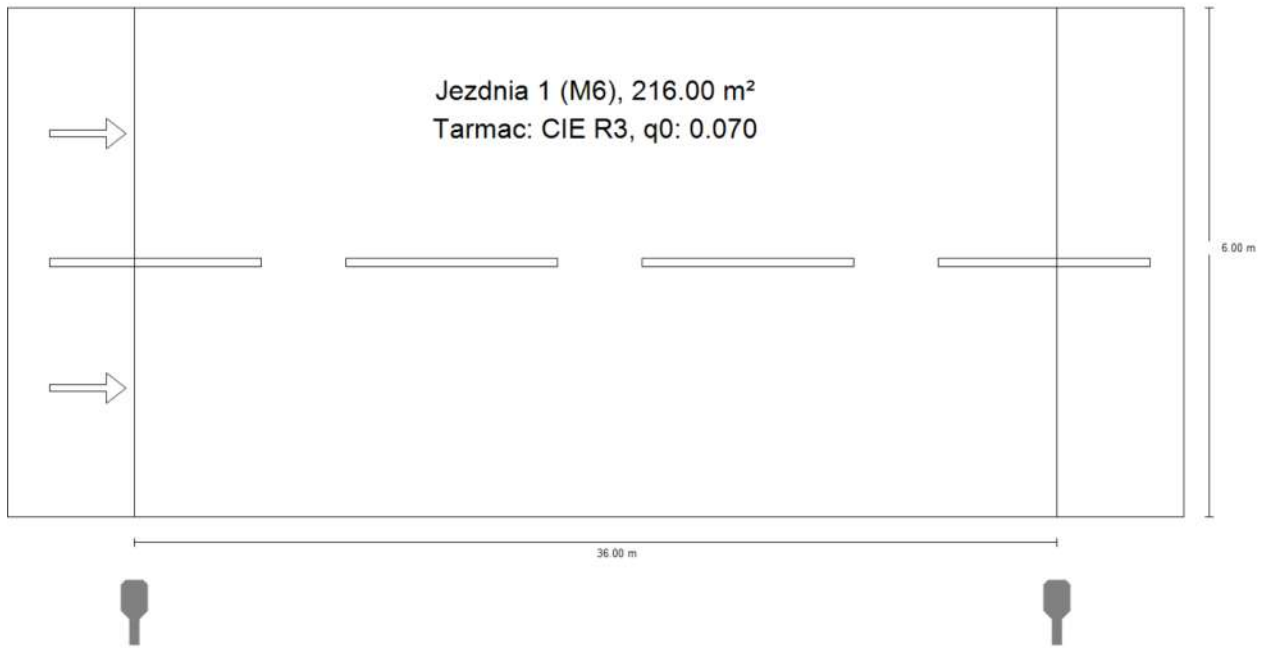
	Symbol	Calculated	Target	Check
Jezdnia 1 (M5)	L_{av}	0.51 cd/m ²	≥ 0.50 cd/m ²	✓
	U_0	0.47	≥ 0.35	✓
	U_l	0.50	≥ 0.40	✓
	TI	14 %	≤ 15 %	✓
	R_{EI}	0.45	≥ 0.30	✓

A maintenance factor of 0.80 was used for calculating for the installation.

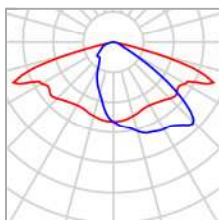
Results for energy efficiency indicators

	Symbol	Calculated	Consumption
1 Stefan cel Mare	D_p	0.019 W/lx*m ²	-
TRAFFIK LED ED 7200lm/740 IP66 O28 szary II klasa (single side bottom)	D_e	0.7 kWh/m ² yr,	220.0 kWh/yr

Summary (according to EN 13201:2015)



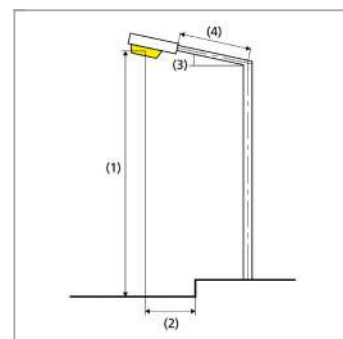
Summary (according to EN 13201:2015)



Manufacturer	LUG Light Factory	P	27.0 W
Article name	TRAFFIK LED ED 3450lm/740 IP66 O28 szary II klasa	Φ_{Lamp}	3450 lm
		$\Phi_{\text{Luminaire}}$	3450 lm
Fitting	1x LED 4000K	η	100.00 %

TRAFFIK LED ED 3450lm/740 IP66 O28 szary II klasa (single side bottom)

Pole distance	36.000 m
(1) Light spot height	8.000 m
(2) Light point overhang	-1.000 m
(3) Boom inclination	0.0°
(4) Boom length	0.500 m
Annual operating hours	4000 h: 100.0 %, 27.0 W
Consumption	756.0 W/km
ULR / ULOR	0.00 / 0.00
Max. luminous intensities	≥ 70°: 607 cd/klm
Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.	≥ 80°: 36.7 cd/klm ≥ 90°: 0.00 cd/klm
Luminous intensity class	G*3
The luminous intensity values in [cd/klm] for calculation of the luminous intensity class refer to the luminaire luminous flux according to EN 13201:2015.	
Glare index class	D.5



locale

Summary (according to EN 13201:2015)

Results for valuation fields

	Symbol	Calculated	Target	Check
Jezdnia 1 (M6)	L_{av}	0.30 cd/m ²	≥ 0.30 cd/m ²	✓
	U_0	0.58	≥ 0.35	✓
	U_1	0.59	≥ 0.40	✓
	TI	11 %	≤ 20 %	✓
	R_{EI}	0.71	≥ 0.30	✓

A maintenance factor of 0.80 was used for calculating for the installation.

Results for energy efficiency indicators

	Symbol	Calculated	Consumption
locale	D_p	0.024 W/lx*m ²	-
TRAFFIK LED ED 3450lm/740 IP66 O28 szary II klasa (single side bottom)	D_e	0.5 kWh/m ² yr,	108.0 kWh/yr

ELEKTROTECHNICKÝ ZKUŠEBNÍ ÚSTAV



ELECTROTECHNICAL TESTING INSTITUTE - CZECH REPUBLIC
ELEKTROTECHNISCHE PRÜFANSTALT - TSCHJECHISCHE REPUBLIK
INSTITUT ELECTROTECHNIQUE D'ESSAIS - RÉPUBLIQUE TCHÈQUE
ЭЛЕКТРОТЕХНИЧЕСКИЙ ИСПЫТАТЕЛЬНЫЙ ИНСТИТУТ - ЧЕШСКАЯ РЕСПУБЛИКА

Pod lisem 129/2, 171 02 Praha 8 - Troja

CERTIFIKÁT/CERTIFICATE

č./No.: 5190015

Objednatel/Ordering firm:

LUG Light Factory Sp. z o.o.
ul. Gorzowska 11, 65-127 Zielona Góra, Polsko/Poland

Výrobce/Držitel licence//Manufacturer/Licence holder:

LUG Light Factory Sp. z o.o.
ul. Gorzowska 11, 65-127 Zielona Góra, Polsko/Poland

Výrobní místo/Factory:

LUG Light Factory Sp. z o.o.
ul. Gorzowska 11, 65-127 Zielona Góra, Polsko/Poland

Výrobek/Name of product:

Svítilno pro osvětlení cest a ulic/Luminaires for road and street lighting

Obchodní značka/Trade mark:

Typ/Type of product: TRAFFIK R LED ED, TRAFFIK R LED ED DALI

Další značení viz příloha/Other markings see Annex

Přesná specifikace výrobku je uvedena v příloze 1, která tvoří nedílnou součást tohoto certifikátu./Specification of the product is in the annex 1 that forms an integral part of this certificate.

Elektrotechnický zkušební ústav na základě splnění požadavků certifikačního schématu „ENEC“ uděluje licenci na užívání značky/Electrotechnical Testing Institute is granting according to the certification scheme „ENEC“ a licence for using the following mark



Touto značkou může být označován výrobek specifikovaný v tomto certifikátu po dobu platnosti níže uvedené smlouvy na užívání značky ENEC, při dodržení všech pravidel uvedených v této smlouvě./This mark may be used for the product specified in this certificate within validity of the Agreement on the use of the ENEC Mark by implementing all the rules stated in the Agreement.

Právo označovat výrobek výše uvedenou značkou je založeno na/The right to use the above mentioned mark for the product is based on:

- protokolu o zkouškách č./Test report No.: 910873-01/01 ze dne: 10.09.2019

Vzorek zkoušeného výrobku je ve shodě s požadavky/A sample of the product was tested and found to be in conformity with:
EN 60598-1:15+A1:18, EN 60598-2-3:03+A1:11

- provedení inspekce v místě výroby – viz inspekční zpráva č./inspection in the place of manufacture – see inspection report No.: 803935-01 ze dne/of 12.12.2018
- smlouvě na užívání značky ENEC mezi objednavatelem a Elektrotechnickým zkušebním ústavem č./the Agreement on the use of the ENEC Mark concluded between the ordering firm and the Electrotechnical Testing Institute No.: 910873

10.09.2019

V Praze dne/Prague

Mgr. Miroslav Sedláček
Vedoucí certifikačního orgánu/
Head of Certification Body



910873-01

Příloha licence č. 5190015 Annex to Licence No. 5190015	
Držitel licence Licensee	LUG Light Factory Sp.z o.o. Ul. Grozowska 11, 65-127 Zilena Góra, Poland
Výrobce Manufacturer	LUG Light Factory Sp.z o.o. Ul. Grozowska 11, 65-127 Zilena Góra, Poland
Druh svítidla Kind of luminaire	Svítidlo pro osvětlení cest a ulic Luminaire for road and street lightning
Typ svítidla Type reference	TRAFFIK R LED ED TRAFFIK R LED ED DALI
Obchodní značka Trade mark	LUG Light Factory Sp.z o.o.
Protokol o zkoušce Test report	901873-01/01
Národní normy National standard(s)	EN 60598-2-3:2003 + A1:2011 ČSN EN 60598-1:2015
Evropské normy European standard(s)	EN 60598-2-3:2003 + A1:2011 EN 60598-1:2015
Jmenovité napětí Rated voltage	220 - 240 V
Jmenovitý příkon a počet zdrojů Rated wattage and number of lamps	69, 58, 53, 50, 36, 19 W
Typ světelného zdroje Lamp identification	LED modul LED module
Stupeň krytí Degree of protection	IP 66
Připojení napájení Supply connection	Upravené konce Prepared wires
Podkladová plocha Supporting surface	Normálně hořlavý povrch Normally flammable surface
Druh ochrany Protection against electric shock	CI.II.
Jiné udaje Other data	IK 08

Příloha licence č. 5190015
Annex to Licence No. 5190015

EN 60598-2-3:2003

Clause	Requirement – Test	Result – Remark	Verdict
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	ANNEX ZB, SPECIAL NATIONAL CONDITIONS ENEC-301 – AMENDMENT B RESTRICTIONS		
(2.2)	Class 0 not accepted		OK
(3.3)	DK: power supply cord with label		---
	IT: warning label on Class 0 luminaire		---
(4.5.1)	DK, FR: socket-outlets		---
(5.2.1)	DK, FI, SE, GB: type of plug		---

ZC	ANNEX ZC, NATIONAL CONDITIONS ENEC-301 – AMENDMENT B RESTRICTIONS		
(13.3)	DK: needle-flame or glow-wire test		---
(13.3.2 + 13.3.3)	FR: glow-wire test		---

IEC 598-1	COMMON MODIFICATIONS		
3.2.12	NL - cable without mains plug		---
3.3.3.c	fixed wiring		---
4.11.6	Electro-mechanical contact systems		---
5.2.2	Type of cable		---
5.2.15	Colour code low voltage		---

Handwritten signature



TRAFFIK LED				TRAFFIK R LED			
Index	MIN[W]	MAX. [W]	Ta[°C]	Index	MIN[W]	MAX. [W]	Ta[°C]
130C92.AL01B.XY0.M	10	19	+55°C	130C92.AL01B.XY1.M	10	19	+55°C
130C92.AL02B.XY0.M	10	36	+50°C	130C92.AL02B.XY1.M	10	36	+50°C
130C92.AL03B.XY0.M	10	53	+50°C	130C92.AL03B.XY1.M	10	53	+50°C
130C92.AL04B.XY0.M	10	69	+45°C	130C92.AL04B.XY1.M	10	69	+45°C

A	6- DALI/ED 5- ON-OFF 2- DIM 1-10V 3- DALI P - PRAGRAMMABLE
B	1 - PROTECTION CLASS I 2 - PROTECTION CLASS II
XY	OPTIC TYPE 01 ... 99
C	COLOUR 1 ... 9
M	Modifications XXX (combination of the following modifications)

Certificate is valid also with modifications

- LED CCT 2700K, 3000K, 4000K, 5700K, 6500K
- LED CRI 70, 80
- NTC
- power reduction by curent programing
- ø 76 mm pole
- NEMA / ZHAGA Connector
- 10/20kV Protection
- anti pressure vent





Management Service

CERTIFICATE

The Certification Body
of TÜV SÜD Management Service GmbH

certifies that



LUG LIGHT FACTORY Sp. z o.o.

ul. Gorzowska 11
65-127 Zielona Góra
Poland

including the sites and scope of application
see enclosure

has established and applies
a Quality Management System.

An audit was performed, Order No. **73423157**.

Proof has been furnished that the requirements
according to

ISO 9001:2015

are fulfilled.

The certificate is valid from **2021-03-07** until **2024-03-06**.

Certificate Registration No.: **12 100 23152 TMS**.

Head of Certification Body
Munich, 2021-03-08





Enclosure of Certificate Registration No.: 12 100 23152 TMS

Sites	Scope of application
LUG LIGHT FACTORY Sp. z o.o. ul. Gorzowska 11 65-127 Zielona Góra Poland	Design, production and sale of lighting systems.
Lug Light Factory Sp. z o.o. ul. Nowa 7 66-002 Nowy Kisielin Poland	Design and production of lighting systems.

Head of Certification Body
Munich, 2021-03-08





Management Service

CERTIFICATE

The Certification Body
of TÜV SÜD Management Service GmbH

certifies that



LUG LIGHT FACTORY Sp. z o.o.

ul. Gorzowska 11
65-127 Zielona Góra
Poland

including the sites and scope of application
see enclosure

has established and applies
an Environmental Management System.

An audit was performed, Order No. **73423157**.

Proof has been furnished that the requirements
according to

ISO 14001:2015

are fulfilled.

The certificate is valid from **2021-04-03** until **2024-04-02**.

Certificate Registration No.: **12 104 23152 TMS**.

Head of Certification Body
Munich, 2021-03-08



Deutsche
Akkreditierungsstelle
D-ZM-14143-01-00



Management Service

Enclosure of Certificate Registration No.: 12 104 23152 TMS

Sites	Scope of application
LUG LIGHT FACTORY Sp. z o.o. ul. Gorzowska 11 65-127 Zielona Góra Poland	Design, production and sale of lighting systems.
Lug Light Factory Sp. z o.o. ul. Nowa 7 66-002 Nowy Kisielin Poland	Design and production of lighting systems.

Head of Certification Body
Munich, 2021-03-08





Management Service

CERTIFICATE

The Certification Body
of TÜV SÜD Management Service GmbH
certifies that



LUG LIGHT FACTORY Sp. z o.o.
ul. Gorzowska 11, 65-127 Zielona Góra
Poland

for the scope of application

**Designing, production and sales of
lighting systems**

Lug Light Factory Sp. z o.o.
ul. Nowa 7, 66-002 Nowy Kisielin
Poland

for the scope of application

**Designing and production of
lighting systems**

has established and applies
an Occupational Health and Safety Management System.

An audit was performed, Order No. **73438131**.

Proof has been furnished that the requirements
according to

ISO 45001:2018

are fulfilled.

The certificate is valid from **2021-03-19** until **2023-03-19**.

Certificate Registration No.: **12 117 23152 TMS**.

Head of Certification Body
Munich, 2021-03-23



ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ CERTIFICADO ◆ CERTIFICAT



Management Service

CERTIFICATE

The Certification Body
of TÜV SÜD Management Service GmbH

certifies that



LUG LIGHT FACTORY Sp. z o.o.

ul. Gorzowska 11
65-127 Zielona Góra
Poland

Scope of application

**Designing, production and sales of
lighting systems**

Lug Light Factory Sp. z o.o.

ul. Nowa 7
66-002 Nowy Kisielin
Poland

Scope of application

**Designing and production of
lighting systems**

has established and applies
an Energy Management System.

An audit was performed, Order No. **73424337**.

Proof has been furnished that the requirements according to

ISO 50001:2018

are fulfilled.

The certificate is valid from **2021-04-18** until **2024-04-17**.

Certificate Registration No.: **12 340 23152 TMS**.

Head of Certification Body
Munich, 2021-03-29



CERTIFICAT



CERTIFICADO



СЕРТИФИКАТ



認證證書



CERTIFICATE



ZERTIFIKAT



EU DECLARATION OF CONFORMITY

LG/2019/02/131



We

LUG Light Factory Ltd.
Gorzowska 11
65-127 Zielona Góra, Poland

declare under our sole responsibility that the product

Name	TRAFFIK LED
Group	Infrastructural lighting
Factory number	ATTACHMENT

is in conformity with the provisions of the following acts:

Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility

Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits

Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products

Commission regulation (EU) 2019/2020 of 1 October 2019 laying down ecodesign requirements for light sources and separate control gears pursuant to Directive 2009/125/EC of the European Parliament and of the Council and repealing Commission Regulations (EC) No 244/2009, (EC) No 245/2009 and (EU) No 1194/2012

and the following harmonized standards:

PN-EN IEC 60598-1:2021-07
PN-EN IEC 55015:2019-11
PN-EN IEC 55015:2019-11/A11:2020-07
PN-EN 61547:2009
PN-EN IEC 61000-3-2:2019-04
PN-EN IEC 61000-3-2:2019-04/A1:2021-08
PN-EN 61000-3-3:2013-10

PN-EN 61000-3-3:2013-10/A1:2019-10
PN-EN 62493:2015-11
PN-EN IEC 63000:2019-01
PN-EN 62471:2010
PN-EN 60598-2-3:2006
PN-EN 60598-2-3:2006/A1:2012

LUG Light Factory Sp. z o. o.
Kierownik Laboratorium/Laboratory Manager

mgr inż. Marcin Białas

Issued by

DYREKTOR
DS. TECHNICZNYCH

mgr inż. Mariusz Ejsmont

Authorized person signature



GENERAL WARRANTY TERMS AND CONDITIONS CONCERNING LUG LIGHT FACTORY SP. Z O.O. LIGHTING PRODUCTS

1. General Warranty Terms

- 1.1. LUG Light Factory Sp. z o.o., with its registered office on ul. Gorzowska 11, 65-127 Zielona Góra, KRS (National Court Register No. 0000290498), hereinafter referred to as the “Guarantor”, hereby provides the warranty for lighting products, as described in this document.
- 1.2. The Guarantor declares that the above mentioned products are free from manufacturing and material defects, and if used for their intended purpose, they will function properly for a period not shorter than the period of the warranty, subject to the circumstances described in this document.
- 1.3. The Guarantor provides the warranty for products sold for the period of:
 - 5 years for all LUG products with an LED light source
 - 5 years for all FLASH&DQ products
 - 3 years for LUGBOX products
 - 2 years for conventional lighting fixtures (without an LED light source)
 - 1 year for lighting fixtures made for emergency purposes
- 1.4. The warranty is only valid under the following conditions:
 - 1.4.1. The warranty shall only cover manufacturing defects and defects attributable to the reasons inherent in the product, i.e., hidden defects caused by manufacturing defects or hidden defects in materials;
 - 1.4.2. Lighting fixtures should be operated, installed and stored in accordance with the information on the specification sheet and assembly instructions;
 - 1.4.3. Unless otherwise stated on the specification sheet, lighting fixtures by LUG Light Factory Sp. z o.o. are designed for standard working conditions;
 - 1.4.4. Standard conditions are characterised by ambient temperatures ranging from -10°C to +25°C, humidity: <85%, pressure: 690-1060 hPa;
 - 1.4.5. Lighting fixtures should not be used in conditions dangerous to the construction, paint coatings or electrical equipment installed in the lighting fixtures. These conditions include high humidity, high temperature, presence of dust, presence of harmful chemicals in the air, UV radiation, shocks and vibrations;



- 1.4.6. The specification sheet contains a detailed description of the product, together with a general indication of its use, which refers to standard operating conditions;
 - 1.4.7. If the product is intended for use in environments with special technical characteristics, those characteristics are specified in the specification sheet. If no special technical characteristics are mentioned, the use of the lighting fixture should be in accordance with the LUG Light Factory Sp. z o.o. Technical Preparation of Production Branch;
 - 1.4.8. If the conditions in which the lighting fixtures are operated differ from those for which the fixtures are intended, the Buyer, prior to the purchase, shall notify the Guarantor of the conditions at the fitting site, and the Guarantor shall confirm their applicability in such an environment;
 - 1.4.9. The products shall be used according to their purpose and product specification provided (assembly instructions, specification sheet and label). Service reviews shall be carried out and consulted with the LUG Light Factory Sp. z o.o. Technical Preparation of Production Branch if such a requirement is provided in the documentation accompanying the products;
 - 1.4.10. The installation of the products shall be carried out in a professional manner by qualified personnel, in accordance with the terms and conditions set out in the assembly instructions attached to the product and the specification sheet, as well as and in accordance with the rules and technical knowledge;
 - 1.4.11. Modifications of product features or software updates shall be made only by the lighting fixture manufacturer or by a third party assigned by the manufacturer;
 - 1.4.12. All repairs or maintenance of the products shall be made using the manufacturer's guidelines and recommendations;
 - 1.4.13. The products must not be exposed to unintended mechanical and/or chemical congestion, which would threaten the construction of the lighting fixtures, paint coating or electronic components inside the fixtures;
 - 1.4.14. Ambient temperatures and supply voltages shall not exceed the rated values for products in specifications or technical standards.
- 1.5. The violation of the foregoing and other rules stipulated herein shall result in the loss of warranty rights.

2. Scope of Warranty

- 2.1. The warranty starts from the date of product purchase by the Buyer, resulting from the VAT invoice confirming the purchase of goods.
- 2.2. The Buyer's rights under the warranty for defects referred to in the Civil Code are excluded. This provision also applies to software.



- 2.3. This warranty only covers product defects resulting from design, material or manufacturing defects, as well as from the fact of exceeding the average nominal failure rate, which for electronic components (power supplies, controllers, ballasts, LED modules) amounts to 0.2% damages per 1,000 h of work unless stated otherwise in the product's technical data sheets/product brochures.
- 2.4. The warranty shall not cover:
- 2.4.1. Any interchangeable components, such as conventional light sources, starters, capacitors, batteries and other components subject to normal wear and tear during operation;
 - 2.4.2. Components provided by external entities, such as hard drives, computers, servers, etc. Those devices may be covered by their manufacturer's warranty, which requires the confirmation of the device manufacturer;
 - 2.4.3. The natural wear and tear of the materials used, such as discoloration or loss of elasticity of plastic parts (e.g. yellowing of polycarbonate shades), fading of paint coatings due to weathering, aging, etc.;
 - 2.4.4. Defects resulting from damaged software, viruses, services related to software upgrades or reboots, faulty component settings, defects due to wear and tear, pollution, third party activity (especially of installers using the products covered by the warranty), etc.;
 - 2.4.5. Defects resulting from the effect of chemical, thermal, mechanical, light or other factors whose impact on the products is contrary to the instructions for use and technical knowledge;
 - 2.4.6. Additional costs associated with the recognition of the warranty and the removal of defects, including the cost of assembly and disassembly of the defective product, the cost of transporting the product to the manufacturer and returning a new or repaired product, and other similar costs. Those costs shall be covered by the Buyer;
 - 2.4.7. Products whose serial numbers, product numbers, lighting fixture names, trademarks or other identification markings have been removed, covered, or made illegible.
- 2.5. A drop in the luminous flux during the product life to 0.6%/1,000 h and colour change of the LED modules are normal phenomena and shall not be covered by the warranty.
- 2.6. The total lighting time of the lighting fixtures per year must not exceed 4,300 h.
- 2.7. The parameters of the new LED lighting fixtures (modules) are covered by a +/- 10% tolerance for luminous flux, power and colour temperature.



3. Warranty Claim

- 3.1. Claims should be made using a complaint form, which is available on LUG Light Factory Sp. z o.o.'s website at: <http://www.lug.com.pl/download/dokumenty>
- 3.2. The Buyer submitting the complaint shall be obliged to complete the complaint form and send it immediately to the Guarantor.
- 3.3. All Warranty claims are made to the Guarantor in writing, under pain of forfeiture of the Warranty rights, and sent by fax or e-mail to: service@lug.com.pl with the enclosed proof of purchase (VAT invoice, cash register receipt or a copy of purchase agreement) and a detailed, documented description of the defect found. Upon receipt of a properly filled out application, a message will be sent to the Buyer about the acceptance of the application together with the number of the complaint.
- 3.4. The Guarantor shall process the complaint within 14 days of the date of the delivery of the defective product and documents stipulated in Section 3.3, subject to the possibility of extending the period, in case of the necessity to carry out detailed technical examinations, which shall be immediately communicated to the Buyer by the Guarantor.
- 3.5. The Buyer returns the faulty item, referred to in point. 3.4. of these General Warranty Terms and Conditions, clearly marking on the packaging the complaint number received from the Guarantor, lack of which may result in the non-receipt of such a shipment by the Guarantor to his warehouse.
- 3.6. The Guarantor shall inform the Buyer in writing, by telephone, fax or e-mail about the outcome of the complaint investigation.
- 3.7. The Guarantor's liability shall be limited to the maximum value of the product on the date of its purchase.
- 3.8. In the event that the Warranty claim is accepted, the Guarantor decides in each case whether to repair a defective product, replace it with a defect-free product, reduce its price or replace it with a product of the same application and similar technical parameters in the case when the subject of the complaint has been withdrawn from the offer.
- 3.9. The Guarantor, when repairing the defective product, allows the exchange of components for used or reconditioned components, which, in terms of performance, functionality and reliability are equivalent to new components and are free from defects and material shortages.
- 3.10. During the course of the warranty process, the repair of the product or its replacement into a defect-free product shall be free of charge.
- 3.11. If, as a result of a warranty claim, any elements of the defective product are replaced, the warranty period shall not be calculated anew.
- 3.12. If the warranty claim is accepted, the Guarantor will undertake necessary actions towards

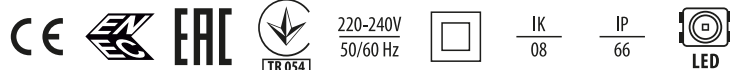


fulfilling the warranty obligation at the latest within 21 days from the date of informing the Buyer about the way of handling the complaint, unless there are circumstances beyond the control of the Guarantor, which may have an impact on the extension of that time, e.g., the necessity to perform additional laboratory tests or order non-standard components to be used in the repaired lighting fixture, which need to be ordered from suppliers, etc.

- 3.13. If the product is not collected upon the Guarantor's request, the Buyer shall incur the costs of storing the product, or possibly the cost of its return.
- 3.14. The product storing period by the Guarantor is up to 6 months. After this period the product will be returned to the Buyer at his expense.
- 3.15. All costs related to the Guarantor's investigation of an unjustified warranty claim shall be borne by the Buyer.

4. Other Provisions

- 4.1. If the Buyer or any third party designated by the Buyer makes any interference in the fixture, or repairs, alters or removes any defects in the products without the written consent of the Guarantor, any claims under this warranty shall lapse once such interference, repairs, alterations or removals have been made.
- 4.2. The warranty shall also expire if the products are used for purposes other than intended.
- 4.3. If the Guarantor receives a complaint from the Buyer, the Guarantor reserves the right to inspect the defects of the products involved at their place of use. The lack of the Buyer's consent to the performance of such an inspection by the Guarantor or his designated representative shall be treated as a waiver of the warranty claim.
- 4.4. The Guarantor allows the possibility to perform payable service repairs of products, including post-warranty repairs, the terms and conditions of which shall be agreed upon each time between the Buyer and the Guarantor.
- 4.5. LUG Light Factory Sp. z o.o., within the limits of the applicable law, shall not be responsible for any loss, damage, increased costs or expense, for any loss of the possibility to use the product, its functionality, for any damage to the product, any lost benefits, savings, contracts, revenues or any losses or additional costs not resulting directly from the fault of LUG Light Factory Sp. z o.o.
- 4.6. The law applicable to this warranty shall be Polish law.
- 4.7. These General Warranty Terms and Conditions are effective from 1 December 2017 and apply to all orders placed after that date.
- 4.8. Warranty terms and conditions are available on the manufacturer's website: www.lug.com.pl



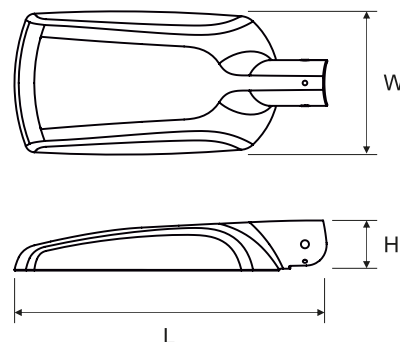
Professional streetlight luminaire for LED light sources.

TECHNICAL DATA	Mounting: on outriggers ø60/48mm
	Body: high pressure die-cast aluminum
ELECTRICAL DATA	Lateral Surface Wind Exposed: 0.033 m ²
	Colour: gray
OPTICAL DATA	Diffuser: tempered glass
	Power supply efficiency: >90%
GENERAL DATA	Power: 220-240V 50/60Hz
	Includes light source: yes
	Type of equipment: ED
	Electrical connection: luminaire equipped with 2x1.5 mm ² wire with a length of 60 cm
	Way of lighting: direct
	Type of optic: 028 - for express roads
	ULOR / DLOR: 0% / 100%
	Other remarks: the pole and boom are not part of the luminaire; 10kV surge protection
	Warranty: 5 years
	Application: local roads, express roads, town roads, residential area roads, area lighting, avenues, promenade, parking areas



Code	Luminaire power [W]	Lumen luminaire [lm]	Efficacy [lm/W]	Colour temperature [K]	CRI/Ra	Operating temperature range [°C]	LED lifetime [h]
130292.5L022.020.001	27	3450	128	4000	>70	-40 ... +50	(L75) 100 000

Code	Dimensions [mm] L W H	Pallet quantity	Quantity in package	Net weight [kg]
130292.5L022.020.001	505 230 80	70	1	3.5



OTHER PICTURES



Luminous flux tolerance +/- 10%.

Power tolerance +/- 5%.

Lighting beam, light intensity distribution and light efficiency were examined in accordance with the EN ISO 17025:2005 norm for EN13032 norm series and the LM-79 norm.

General Warranty Terms available on our website www.luglightfactory.com

Detailed information on luminous fluxes and powers for individual indexes are indicated on the product data sheet.

The parameters in the data sheet are given for Ta=25°C.

The operating temperature ranges apply only to luminaires used in the outdoor environment.

ACCESSORIES



□ 150172.01021 TRAFFIK LED Adjustable bracket ø60mm



150170.01025 5 field connectors IP68



150170.01022 2 field connectors IP68

150170.01023 3 field connectors IP68

150170.01024 4 field connectors IP68

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**LUG®**

LUG Light Factory Ltd.
Producer of Professional Lighting Fittings



Zielona Góra, 18.06.2018

EC Declaration of Conformity

RoHS2 Directive 2011/65/EU

LUG Light Factory Ltd. hereby declares that our all products are in full compliance with EU Directive 2011/65/EU (the RoHS2 Directive) that restricts the use of the hazardous substances in electrical and electronic equipment, listed below:

1. Lead (Pb)
2. Mercury (Hg)
3. Cadmium (Cd)
4. Hexavalent chromium (Cr⁶⁺)
5. Polybrominated biphenyls (PBB)
6. Polybrominated diphenyl ether (PBDE)
7. Bis(2-ethylhexyl) phthalate (DEHP)
8. Butyl benzyl phthalate (BBP)
9. Dibutyl phthalate (DBP)
10. Diisobutyl phthalate (DIBP)

We also confirm our suppliers statements regarding the absence of the restricted substances.

Compiled by :

LUG Light Factory Sp. z o.o.
Kierownik Laboratorium/Laboratory Manager

mgr inż. Marcin Białas



LUG LIGHT FACTORY Sp. z o.o.
65-127 Zielona Góra, ul. Gorzowska 11
tel. (068) 45 33 200, fax (068) 45 33 201
NIP 929-17-85-452 (1)

Approved by:

LUG Light Factory Sp. z o.o.
DYREKTOR DS. TECHNICZNYCH
mgr inż. Mariusz Ejsmont

Denumire caracteristici tehnici fata de corpul de iluminat	Caracteristici tehnici solicitati	Caracteristici tehnici propusi
Puterea (consum) nominală unitate	30 Wt	27 Wt
Tensiunea nominala	220-240 V	220-240 V
Frecvența	50-60 Hz	50-60 Hz
Flux luminos lampă	minim 3000 Lm	3474,37 Lm
Flux luminos	Minim110 Lm/W	127,9 Lm/W
Culoare cuprinsă	4000K	4000K
Indicele de redare a culorii	minim 70 Ra	Minim 70
Devierea de la culoarea standard (initială)	maxim 5 scdm	5 scdm
Capac optic/tip lentilă	Sticla plata, transparenta	Sticlă calită
Unghiul de dispersare pe longitudinal	130– 150 grade	130-150 grade
Unghiul de dispersare pe transversal	75 – 90 grade	75 – 90 grade
Clasa de protecție	II	II
Gradul de protecție a componentei optice	IP 65	IP 66
Material carcasa	Aluminiu turnat	Aluminiu turnat
Rezistență la șocuri mecanice a difuzorului (protecție la	min IK 08	IK 08
Blocul electronic, compatibil cu tipul sursei de lumină utilizată, asigurarea funcționării la factor de putere	0,98	>,098
Protecție împotriva electrocutării	Clasa I sau II	II
Funcționare la temperaturi între	-40 și +35 grade Celsius	-40 și +50 grade Celsius
Tip conectare borne	Cablu 3 poli	Cablu 3 poli
Greutatea aparatului	1.5 – 2.5 Kg	3.5 kg
Durata de viață cu asigurarea a minim 70% din fluxul luminos inițial	minim 50000 h	100 000 h
Garanție producător	minim 5 ani	5 ani