

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

PHOTOMETRIC TEST REPORT

Test Report according to LM-79 / EN13032

1. DEVICE UNDER TEST SPECIFICATION:

TEST REPORT NO.:	342/2020
TEST PROTOCOL NO.:	6610, 6612, 6613, 6615, 6555
PLACE/DATE:	ZIELONA GÓRA, 30.04.2020
TESTED AND COMPILED BY:	KRZYSZTOF OLEK
APPROVED BY:	MARCIN BIAŁAS
DEVICE UNDER TEST:	LIGHT FITTING
LUMINAIRE NAME:	URBINO LED ED 7650lm/740 O33 szary II klasa
ARTICLE NO:	130222.5L762.121
MANUFACTURER:	LUG LIGHT FACTORY
VERSION INFO:	STANDARD
LED MODULE:	LUG ML1924106.W740.01A, 48 LED
LAMP IDENTIFICATION:	LED 4000K
LED DRIVER:	Osram OT 75/170-240/1A0 1DIM LT2 G1 CE set to 700mA
INPUT VOLTAGE/FREQUENCY:	220-240V/50-60Hz
LUMINAIRE DIMENSIONS:	L : 0.550 m / W : 0.250 m / H : 0.100 m
LIGHT OUTPUT DIMENSIONS:	L : 0.200 m / W : 0.190 m

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2. GONIOPHOTOMETRY TEST RESULTS:

LUMINOUS FLUX:	7777,16 lm
ACTIVE POWER:	50,0 W
EFFICIENCY:	155,5 lm/W
RMS SUPPLY CURRENT:	0,224 A
POWER FACTOR:	0,971
RMS SUPPLY VOLTAGE:	230,0 V
FREQUENCY:	50,0 Hz
LIGHT DISTRIBUTION ANGLE:	n/a
ACCURACY:	± 5%
AMBIENT TEMPERATURE:	25°C ± 1°C

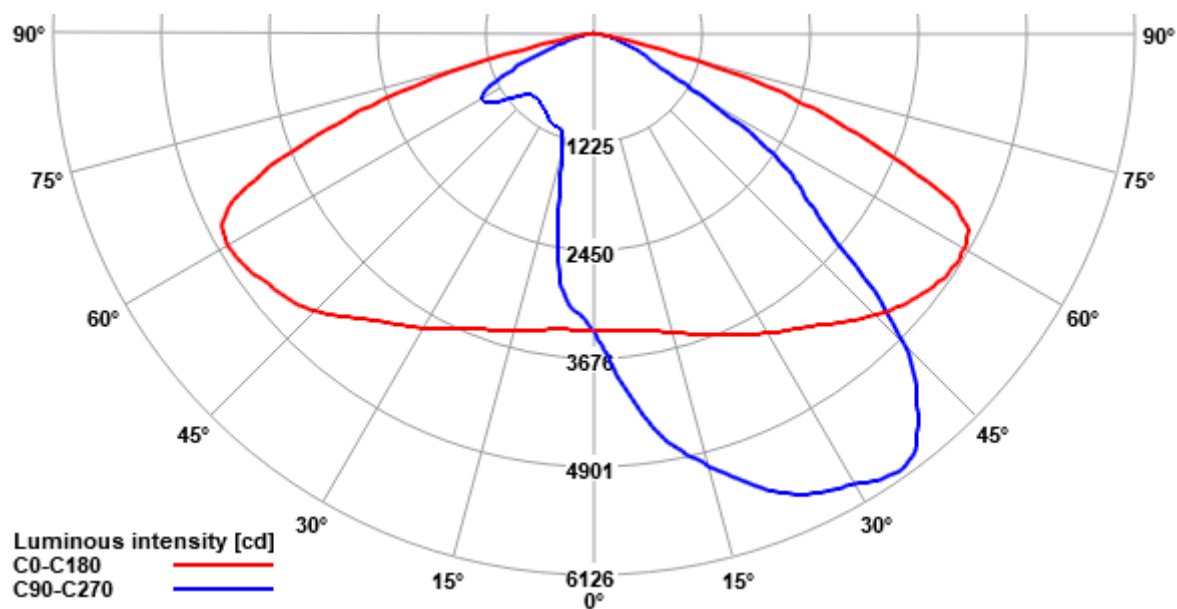


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3. LIGHT DISTRIBUTION (POLAR) CURVE:



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G \ C	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°
0°	231,67	231,67	231,67	231,67	231,67	231,67	231,67	231,67	231,67	231,67	231,67	231,67
2,5°	231,75	233,04	234,60	236,03	237,43	238,91	240,41	241,79	243,30	244,59	246,27	246,98
5°	232,49	235,08	238,27	241,53	244,94	248,43	251,88	255,30	258,90	261,82	264,94	267,71
7,5°	233,76	238,07	243,17	248,58	254,26	260,16	265,91	271,49	276,76	281,44	285,96	289,82
10°	235,64	241,83	249,17	257,23	265,58	273,62	281,60	289,09	296,04	301,87	306,86	311,04
12,5°	238,28	246,55	256,47	267,04	277,63	288,20	298,05	306,49	314,10	319,87	324,58	328,07
15°	241,83	252,27	265,05	278,53	291,78	304,25	315,16	323,75	330,84	336,08	340,29	343,35
17,5°	245,72	258,87	274,22	290,69	305,81	320,01	331,17	339,71	346,53	351,20	355,14	358,10
20°	249,73	265,61	284,53	303,66	320,86	335,48	346,44	355,00	361,46	366,33	370,41	373,62
22,5°	254,26	273,55	296,09	318,08	336,35	350,77	361,43	369,63	376,10	381,43	385,82	389,35
25°	259,21	282,48	308,68	332,86	351,69	365,95	376,56	384,87	391,60	396,80	401,22	403,98
27,5°	264,89	291,87	321,58	351,18	367,45	381,91	392,70	401,44	408,50	413,44	416,03	417,02
30°	270,24	300,90	333,89	362,41	382,69	397,91	409,25	418,11	424,67	428,28	429,65	429,38
32,5°	275,60	310,25	346,51	377,11	397,90	413,94	425,41	434,80	440,58	442,22	443,04	441,45
35°	280,92	319,92	359,96	391,92	413,10	429,29	441,64	450,40	455,11	456,89	456,49	455,28
37,5°	287,27	331,23	374,35	407,02	428,49	444,72	457,85	465,99	470,31	471,51	470,22	469,24
40°	295,53	343,13	389,28	421,82	443,35	460,87	473,37	480,66	485,11	486,41	485,91	480,56
42,5°	303,18	354,73	403,43	435,97	457,46	475,04	486,22	492,97	499,51	502,25	496,08	484,17
45°	311,31	366,24	416,57	448,52	470,25	485,70	495,77	505,22	513,45	509,63	497,06	478,72
47,5°	318,37	376,09	426,36	456,90	477,12	492,16	503,25	516,87	520,15	508,03	489,98	463,28
50°	324,10	383,38	432,67	461,92	480,61	494,06	509,02	523,41	515,87	498,32	471,27	429,68
52,5°	329,06	390,34	439,46	465,93	480,33	492,82	514,29	516,91	502,50	477,24	431,12	380,05
55°	333,81	397,08	445,66	467,11	476,43	492,28	508,53	502,32	480,11	437,89	383,83	334,08
57,5°	335,37	399,89	447,32	463,21	470,18	490,22	495,63	482,87	448,27	395,04	345,88	299,36
60°	335,27	399,61	442,79	454,58	465,72	481,03	482,60	461,22	413,62	359,39	311,04	267,73
62,5°	330,43	393,28	431,64	444,83	462,48	474,86	470,09	434,61	378,64	323,25	275,55	226,81
65°	307,31	370,67	409,07	428,88	450,29	464,80	447,55	401,56	346,85	288,49	231,76	165,23
67,5°	254,77	315,65	357,19	378,73	395,42	411,87	391,47	355,33	303,28	241,32	170,60	109,93
70°	199,90	261,29	297,96	310,28	320,88	330,95	310,41	276,82	230,44	171,00	114,48	72,36
72,5°	154,93	207,41	234,40	246,27	261,03	264,13	238,26	196,40	143,43	99,31	71,56	49,92
75°	82,81	113,76	136,16	162,51	188,22	185,28	162,95	116,99	77,71	54,54	44,61	36,02
77,5°	19,40	25,82	38,28	56,53	73,50	79,11	69,86	50,42	37,95	32,44	29,26	25,65
80°	6,95	7,09	7,74	10,95	14,97	17,38	18,27	16,38	16,95	19,45	18,23	16,78
82,5°	3,22	3,60	4,09	4,06	4,38	4,83	4,67	5,30	7,99	9,38	8,82	8,26
85°	1,01	0,95	1,23	1,23	1,35	1,49	1,78	1,75	2,33	2,52	2,91	2,73
87,5°	0,20	0,37	0,25	0,31	0,39	0,39	0,51	0,60	0,58	0,62	0,71	0,83
90°	0,22	0,13	0,13	0,20	0,13	0,17	0,24	0,35	0,26	0,44	0,45	0,46

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G \ C	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°	110°	115°
0°	231,67	231,67	231,67	231,67	231,67	231,67	231,67	231,67	231,67	231,67	231,67	231,67
2,5°	248,38	249,37	250,29	250,56	251,37	251,49	251,76	251,59	251,69	250,96	250,58	249,73
5°	270,07	272,25	273,94	275,34	276,26	276,86	277,12	276,75	276,33	275,25	274,01	272,53
7,5°	293,17	296,08	298,29	299,72	300,94	301,48	301,97	301,43	300,91	299,51	297,89	295,51
10°	314,22	316,94	318,91	319,97	321,08	321,29	321,26	320,71	320,34	319,07	317,32	315,43
12,5°	330,85	332,86	334,31	335,33	335,92	336,22	336,14	335,41	334,75	333,62	332,21	330,26
15°	345,56	347,45	348,65	349,45	349,65	349,74	349,64	348,82	348,25	346,95	345,59	343,72
17,5°	360,33	362,10	363,04	363,84	363,93	363,69	363,38	362,44	361,64	360,47	358,96	357,15
20°	376,12	377,64	378,28	378,23	378,12	377,68	376,94	376,06	375,05	374,09	373,05	371,62
22,5°	391,56	392,23	391,80	390,98	390,12	389,43	388,67	387,61	387,03	386,20	385,62	384,95
25°	404,48	404,11	402,71	400,95	399,13	397,83	396,56	395,96	395,46	395,67	396,13	396,18
27,5°	416,55	414,76	411,49	408,54	405,53	403,43	401,97	401,20	401,65	402,94	404,65	406,42
30°	427,45	423,96	419,55	414,87	411,08	407,86	405,95	405,55	406,34	409,09	412,19	415,73
32,5°	438,61	435,02	430,68	425,16	419,41	415,43	413,88	413,84	415,87	419,38	423,62	427,14
35°	451,73	447,65	441,28	432,22	424,06	419,51	417,64	417,18	419,94	426,60	435,12	441,98
37,5°	464,51	457,08	442,82	429,45	420,47	415,04	412,34	411,55	414,59	420,63	431,54	446,70
40°	470,80	454,67	436,58	419,65	406,16	397,78	394,44	394,27	399,38	409,85	423,89	440,69
42,5°	467,76	445,84	420,33	399,49	384,44	375,65	372,34	373,02	378,62	391,20	409,44	432,44
45°	454,54	424,72	396,61	374,09	356,68	347,66	344,34	345,79	353,31	367,47	387,25	413,92
47,5°	428,81	394,26	359,78	332,60	311,99	300,89	296,95	300,58	310,05	328,32	352,43	384,89
50°	385,62	343,46	302,73	273,23	253,04	242,90	238,87	242,58	252,19	269,96	296,78	335,25
52,5°	331,87	287,57	253,16	231,84	217,76	210,51	207,91	209,99	217,26	229,08	248,05	279,53
55°	290,96	254,27	229,31	211,71	196,71	188,80	186,26	188,45	195,69	208,11	224,75	247,62
57,5°	260,16	226,17	197,36	174,62	157,65	148,24	145,07	148,08	156,59	171,83	192,85	219,81
60°	224,81	181,16	144,69	121,51	106,16	98,55	96,37	99,04	106,40	120,09	141,22	175,74
62,5°	165,81	119,78	94,91	77,27	66,60	62,61	62,10	63,11	67,13	76,77	93,03	116,63
65°	107,96	76,08	61,93	56,46	51,45	48,91	48,73	49,35	51,93	56,19	61,37	73,29
67,5°	68,80	53,64	49,03	44,43	41,13	39,20	39,16	39,62	41,42	44,30	48,87	53,55
70°	47,58	43,35	38,63	35,12	32,08	30,55	30,24	30,80	32,39	34,96	38,38	43,23
72,5°	38,02	34,30	30,10	26,67	24,17	23,18	23,06	23,29	24,29	26,44	30,15	33,90
75°	30,02	25,61	21,89	19,54	17,75	17,05	17,02	17,20	17,80	19,43	21,93	25,48
77,5°	22,14	18,30	15,37	13,73	12,50	11,96	11,84	11,92	12,56	13,67	15,37	18,17
80°	13,96	11,97	10,14	8,83	8,08	7,68	7,80	7,70	8,07	8,77	10,01	11,90
82,5°	7,50	6,71	5,64	5,12	4,59	4,34	4,43	4,39	4,55	4,96	5,71	6,71
85°	2,55	2,62	2,40	2,14	1,99	1,80	2,06	1,85	2,07	2,06	2,51	2,54
87,5°	0,69	0,71	0,75	0,68	0,73	0,83	0,80	0,91	0,75	0,75	0,81	0,71
90°	0,51	0,65	0,51	0,52	0,52	0,47	0,67	0,51	0,49	0,45	0,55	0,45

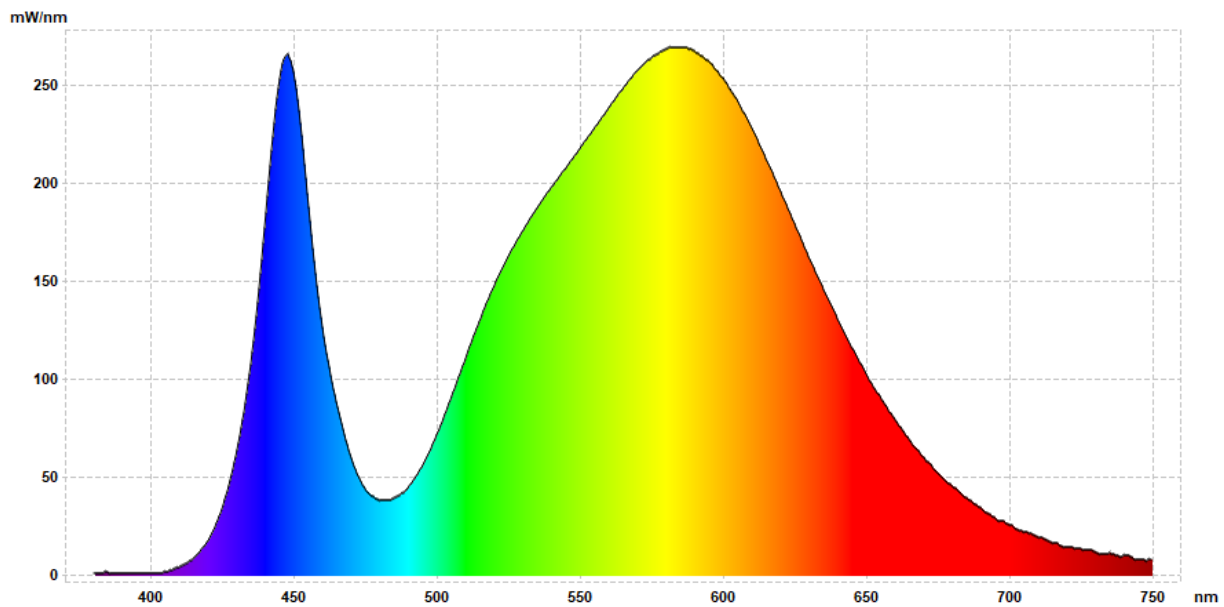


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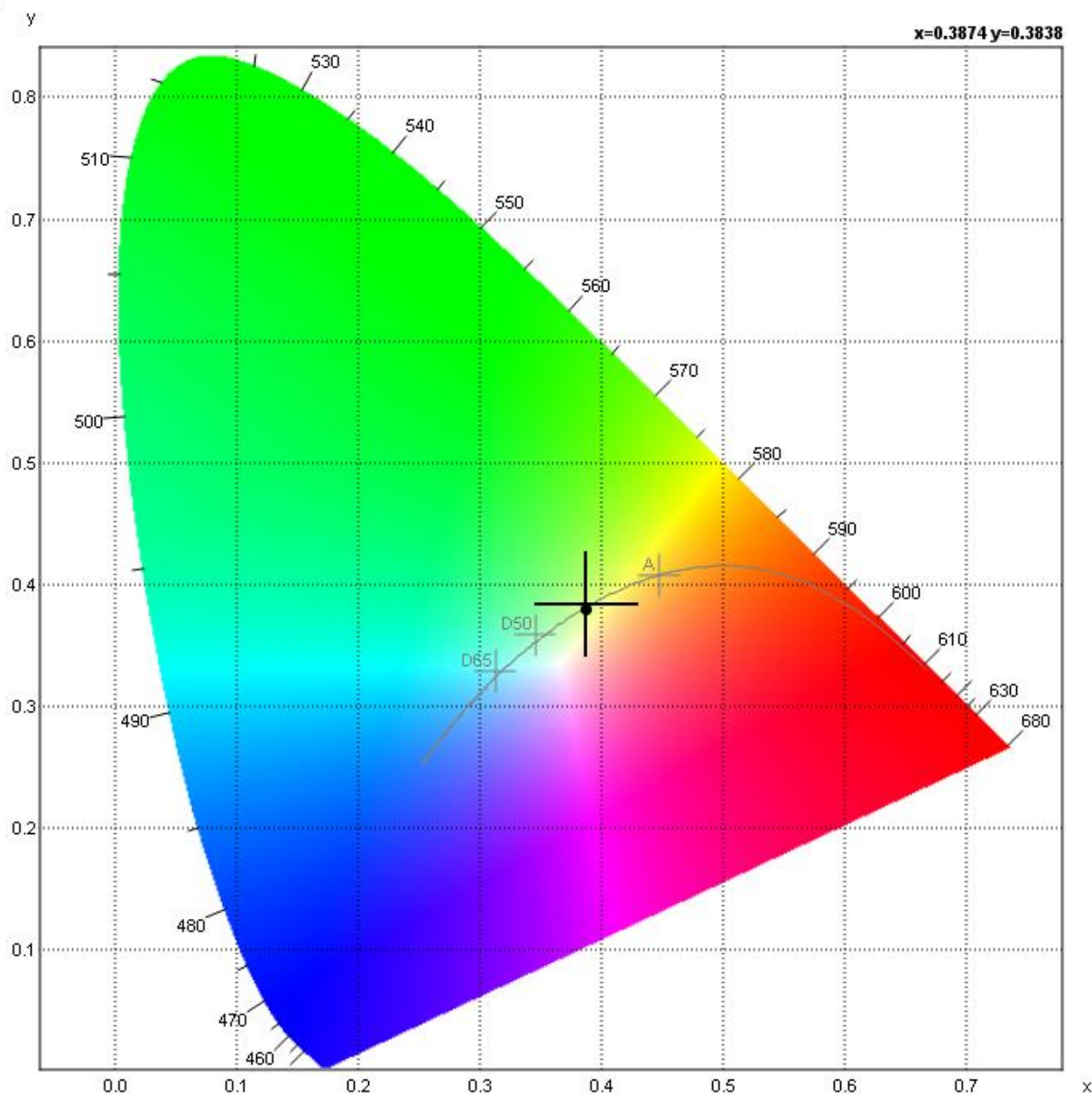
5. SPHERE SPECTROMETRY (CIE Colorimetric Parameters):





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CCT	3869 K
CRI	70,5
x	0,3874
y	0,3838

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STABILIZATION TIME: 30-150 MIN
PHOTOMETRIC DISTANCE: 10,478M
SAMPLE ORIENTATION DURING MEASUREMENT: SIDE**7. LIST OF EQUIPMENT:**

SPECIFICATION OF MEASURING APPARATUS USED IN TESTS			
NO.	EQUIPMENT/PRODUCER/TYPE	MARK	USED
1.	SPECTRORADIOMETER LISUN LMS-9000A(PLUS),SCAN RANGE: 380NM~800NM:1NM, INTEGRATION TIME: AUTO	LAB/PP/16	<input type="checkbox"/>
2.	INTEGRATION SPHERE DIAMETER: 1.50M, 4π	LAB/UP/13	<input type="checkbox"/>
3.	SPECTROMETER UPRTEK ADVANCED MK350S, SCAN RANGE: 380NM~780NM:1NM	LAB/PP/14	<input type="checkbox"/>
4.	GONIOMETER TYPE C-GAMA, GONIOMETR GLG-20-1500, G1500-019 4/2017, PHOTOMETRIC DISTANCE 10.478M	LAB/UP/26	<input checked="" type="checkbox"/>
5.	POWERMETER WITH HARMONIC ANALISER: PF9811 EVERFINE, ACCURACY: CLASS 0,5	LAB/PP/25	<input checked="" type="checkbox"/>
6.	AC TESTING POWER SOURCE DPS1005 EVERFINE	LAB/UP/37	<input checked="" type="checkbox"/>
7.	DIGITAL MULTIMETER, TEKTRONIX	LAB/PP/03	<input type="checkbox"/>
8.	SPEKTROMETER GL SPECTIS 1.0 FLICKER VIS XT010065/16J00129	LAB/PP/29	<input type="checkbox"/>
9.	SPEKTROMETER GL SPECTIS 1.0 VIS GLX10 X0010261/B14W0060	LAB/PP/30	<input checked="" type="checkbox"/>
10.	SPEKTROMETER GL SPECTIS 5.0 UV-VIS-NIR XT050149/1104N069	LAB/PP/31	<input type="checkbox"/>
11.	DIGITAL LUXMETER L-100 379/2009	LAB/PP/01	<input type="checkbox"/>
12.	DIGITAL TEMPERATURE&HUMIDITY LOGGER TR-72WF 4214 085A	LAB/PP/15	<input checked="" type="checkbox"/>

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8. CLAUSE:

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.