

**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.:	334/2020
TEST PROTOCOL NO.:	6975, 6988, 7084
PLACE/DATE:	ZIELONA GÓRA, 21.04.2020
TESTED AND COMPILED BY:	KRZYSZTOF OLEK
APPROVED BY:	MARCIN BIAŁAS
DEVICE UNDER TEST:	LIGHT FITTING
LUMINAIRE NAME:	URBINI LED ED 2000lm/740 O57 szary II klasa
ARTICLE NO:	130232.5L362.171
MANUFACTURER:	LUG LIGHT FACTORY
VERSION INFO:	STANDARD
LED MODULE:	LUG 1xML1925300.W740.01A 12 LED
LAMP IDENTIFICATION:	LED 4000K
LED DRIVER:	Osram OT 40/120-277/1A0 4DIMLT2 E set to 350mA
INPUT VOLTAGE/FREQUENCY:	220-240V/50-60Hz
LUMINAIRE DIMENSIONS:	L : 0.407 m / W : 0.110 m / H : 0.120 m
LIGHT OUTPUT DIMENSIONS:	L : 0.145 m / W : 0.045 m

2. Goniophotometry Test Results:

LUMINOUS FLUX:	2025,70 lm
ACTIVE POWER:	14,4 W
EFFICIENCY:	140,7 lm/W
RMS SUPPLY CURRENT:	0,076 A
POWER FACTOR:	0,830
RMS SUPPLY VOLTAGE:	230,0 V
FREQUENCY:	50,0 Hz
LIGHT DISTRIBUTION ANGLE:	N/A
ACCURACY:	±5%
AMBIENT TEMPERATURE:	25°C ± 1°C

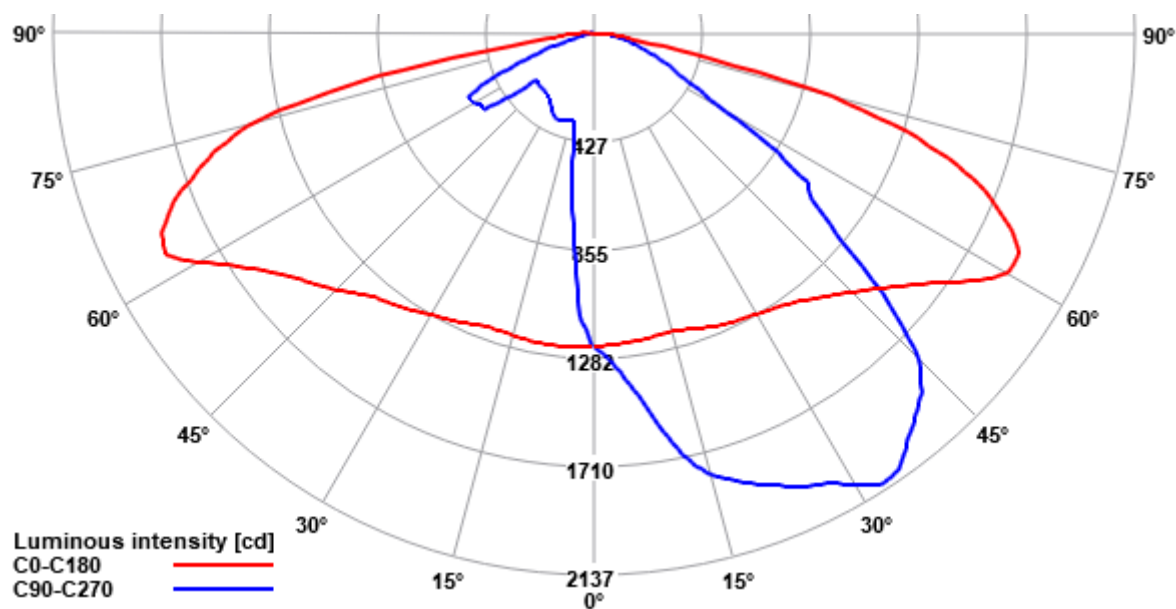


LUG[®]

LUG Light Factory Ltd.
Producer of Professional Lighting Fittings



3. LIGHT DISTRIBUTION (POLAR) CURVE:





LUG[®]

LUG Light Factory Ltd.
Producer of Professional Lighting Fittings



4. LUMINOUS INTENSITY DISTRIBUTION in cd/1000lm:

G \ C	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°
0°	226,96	226,96	226,96	226,96	226,96	226,96	226,96	226,96	226,96	226,96	226,96	226,96
2,5°	226,59	227,70	228,94	229,99	230,83	231,87	232,61	232,92	233,29	233,69	233,72	234,12
5°	225,95	228,55	230,62	232,53	233,56	234,51	235,59	236,73	237,90	239,53	240,51	242,16
7,5°	225,38	228,98	232,10	233,85	235,53	237,76	240,21	242,92	245,99	249,10	252,35	255,29
10°	224,70	229,48	232,89	235,55	238,73	242,31	247,04	252,08	257,17	262,61	268,22	273,49
12,5°	223,91	229,84	234,05	237,77	242,74	249,16	256,40	264,04	271,62	279,43	286,61	293,77
15°	223,85	230,85	235,75	241,86	249,62	258,65	268,47	278,85	288,29	297,29	304,87	311,81
17,5°	225,12	233,70	240,23	248,38	259,07	270,72	282,62	294,03	304,18	312,41	319,84	326,04
20°	227,58	237,75	245,97	256,93	270,61	284,34	297,77	309,49	318,79	326,43	332,19	336,15
22,5°	229,99	241,64	251,81	266,11	281,96	297,95	312,17	323,76	332,61	338,39	341,66	344,83
25°	231,82	245,03	257,69	274,90	293,01	310,61	325,39	336,90	344,50	348,41	351,00	353,46
27,5°	233,76	248,60	263,97	284,41	305,05	323,54	338,70	349,20	354,86	358,37	360,93	362,79
30°	235,46	252,52	271,54	295,10	317,89	337,27	351,71	360,38	365,25	368,32	371,58	373,60
32,5°	237,81	257,37	280,82	308,04	333,34	353,50	366,52	373,17	377,33	381,22	386,20	390,13
35°	240,76	262,99	291,91	323,40	351,20	371,00	382,03	388,59	393,75	399,17	402,79	404,22
37,5°	244,86	271,53	305,95	341,15	369,87	388,87	398,42	404,97	410,90	414,09	414,57	413,17
40°	251,06	282,71	322,50	359,45	387,37	404,39	415,18	422,30	427,61	429,20	429,01	425,36
42,5°	257,62	294,08	337,79	376,96	405,66	422,86	433,40	440,25	446,92	449,46	448,71	440,63
45°	265,48	307,91	356,35	398,03	426,22	442,91	453,16	464,42	472,02	473,78	465,39	444,69
47,5°	274,95	323,73	376,43	419,69	446,23	461,97	476,36	489,02	496,47	491,61	472,80	444,27
50°	285,59	340,38	397,17	440,19	465,31	480,96	497,56	512,04	514,83	500,23	469,64	426,07
52,5°	298,38	358,03	417,90	459,28	481,49	498,71	517,89	528,41	520,22	489,70	439,99	380,94
55°	314,53	378,20	438,68	477,44	496,73	513,70	530,50	528,71	506,26	457,44	395,16	325,61
57,5°	333,34	400,26	461,12	495,37	510,25	525,37	530,83	517,19	478,33	417,15	351,20	288,06
60°	347,67	417,43	477,73	508,98	520,96	531,99	529,68	502,08	448,14	385,43	315,12	255,59
62,5°	348,58	423,04	483,37	512,68	527,06	537,66	534,86	496,67	431,81	357,97	281,65	211,64
65°	333,73	411,25	472,47	501,47	518,22	533,61	531,96	489,91	424,85	339,79	248,11	164,54
67,5°	311,94	388,00	452,56	480,78	496,29	517,32	508,78	459,53	391,92	297,34	202,58	122,25
70°	281,94	352,53	421,13	447,93	461,13	485,30	469,32	416,59	345,74	247,08	157,34	91,48
72,5°	239,74	310,13	378,99	400,27	418,81	442,03	411,86	356,19	280,38	194,22	127,88	73,32
75°	179,24	248,13	302,08	322,28	356,18	374,14	344,76	288,90	186,82	128,31	94,47	57,78
77,5°	85,59	112,34	156,78	208,13	259,39	290,46	257,89	189,34	104,59	78,23	64,84	51,45
80°	30,36	29,32	35,41	56,27	83,45	115,04	118,73	70,24	53,22	54,43	49,92	48,19
82,5°	22,23	21,12	21,04	20,70	26,54	27,36	30,84	32,02	41,44	48,76	42,25	39,71
85°	12,99	15,25	19,67	14,40	13,95	13,93	14,53	17,85	27,88	32,80	30,32	28,25
87,5°	6,80	8,51	11,12	8,95	8,52	9,52	9,60	10,35	14,61	16,36	16,25	14,49
90°	4,27	4,82	5,35	5,17	5,34	6,51	6,36	6,35	6,91	6,83	6,57	5,68

**LUG**[®]

LUG Light Factory Ltd.
Producer of Professional Lighting Fittings



G \ C	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°	110°	115°
0°	226,96	226,96	226,96	226,96	226,96	226,96	226,96	226,96	226,96	226,96	226,96	226,96
2,5°	234,20	234,77	234,92	235,10	235,19	235,49	235,46	235,61	235,42	235,35	235,24	234,90
5°	243,44	244,90	246,09	247,06	247,59	248,42	248,62	248,73	248,20	247,77	247,21	246,21
7,5°	258,09	260,61	263,25	264,96	266,77	267,61	268,29	267,97	267,36	266,07	264,91	262,67
10°	278,04	282,15	286,26	288,96	291,33	292,99	293,47	293,68	292,33	290,80	288,30	284,85
12,5°	299,28	304,45	308,26	311,19	313,90	315,73	316,42	316,59	314,82	313,72	311,14	307,00
15°	317,19	321,93	325,67	328,27	330,13	331,51	331,86	332,21	331,58	330,26	328,60	324,90
17,5°	330,23	333,49	335,55	337,17	338,68	339,32	339,79	340,22	339,77	338,96	337,79	335,38
20°	338,85	341,96	343,51	344,98	346,27	347,36	347,78	348,39	347,75	346,85	346,08	343,48
22,5°	346,96	349,51	350,81	352,07	353,55	354,97	355,03	355,65	355,00	354,23	353,09	350,90
25°	354,94	356,65	357,93	359,39	360,68	361,95	362,81	364,01	362,91	361,97	360,60	357,75
27,5°	363,79	365,31	365,60	365,76	365,93	366,79	367,84	369,08	369,64	370,18	369,95	367,40
30°	374,43	375,40	375,50	375,42	375,92	377,08	377,28	378,04	378,71	379,71	379,35	378,24
32,5°	389,89	389,82	388,46	388,40	387,06	387,87	388,08	389,31	391,94	392,50	393,27	392,45
35°	402,72	399,30	396,12	390,86	388,07	386,49	386,52	386,59	391,05	397,32	402,51	405,10
37,5°	409,60	404,63	395,71	385,75	378,41	375,77	374,32	379,17	382,03	390,55	401,11	409,58
40°	418,71	408,74	394,96	380,56	368,82	363,45	362,94	365,60	370,72	380,56	394,28	408,18
42,5°	423,05	402,99	382,02	365,91	355,93	353,42	352,55	354,57	357,36	365,83	381,20	402,29
45°	418,28	393,49	369,25	351,42	340,50	336,11	334,23	336,72	341,45	351,89	368,59	390,48
47,5°	409,12	375,74	338,73	314,45	299,91	295,06	293,33	297,56	303,66	316,99	341,42	374,46
50°	377,56	321,77	280,65	255,88	241,57	236,35	235,88	239,04	246,57	261,25	287,60	330,11
52,5°	314,02	258,76	226,45	208,17	200,14	199,28	199,75	201,10	202,84	210,87	230,09	265,62
55°	263,92	226,88	206,43	194,98	190,02	189,42	189,64	190,63	191,85	195,22	205,23	225,75
57,5°	236,97	205,51	181,71	164,79	155,74	152,05	151,67	154,92	160,48	170,00	186,06	207,74
60°	199,45	160,73	132,71	115,52	106,79	103,46	103,04	105,28	110,31	120,64	139,72	169,62
62,5°	149,79	112,25	92,48	83,16	78,33	77,44	77,44	78,38	80,89	86,43	97,05	118,02
65°	107,66	81,81	71,58	68,61	66,37	66,32	66,55	67,03	67,94	70,12	73,57	84,84
67,5°	79,78	66,23	62,27	58,61	57,16	56,82	57,21	57,63	58,40	60,16	63,83	67,66
70°	63,33	58,62	53,27	49,85	47,38	46,48	46,32	47,13	48,56	51,30	54,55	59,46
72,5°	55,52	49,88	43,99	39,95	38,24	37,63	37,33	38,30	38,95	40,90	45,36	51,05
75°	49,19	42,43	36,31	33,27	31,33	31,03	30,65	31,30	32,13	33,91	37,33	43,28
77,5°	44,01	35,46	30,03	27,20	25,32	25,06	24,59	25,22	26,07	27,98	31,04	36,28
80°	40,77	29,64	24,33	21,65	19,59	18,91	18,79	19,11	20,07	22,05	24,86	30,15
82,5°	33,51	25,03	18,56	15,66	13,96	13,45	13,69	13,84	14,53	16,14	19,07	25,14
85°	24,87	20,53	14,28	11,01	9,66	9,23	9,34	9,22	9,97	11,36	14,39	20,84
87,5°	13,74	11,98	9,66	7,02	5,89	5,27	5,42	5,67	5,94	6,94	9,47	11,83
90°	4,91	4,09	3,41	3,43	3,54	3,74	3,60	3,56	3,53	3,43	3,42	3,50

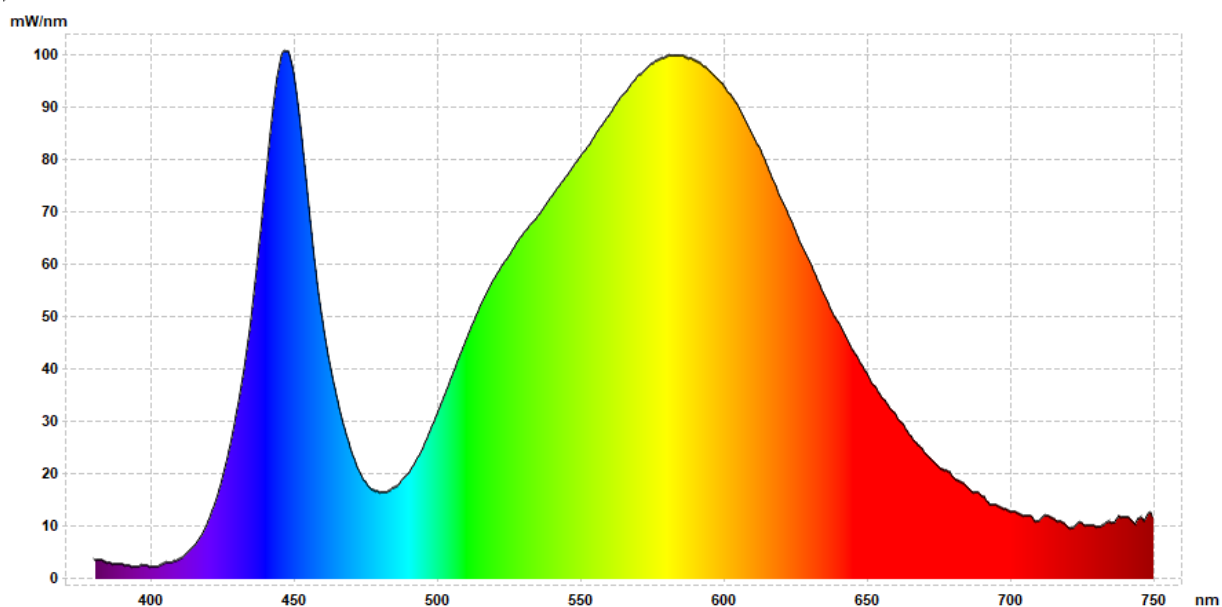


LUG[®]

LUG Light Factory Ltd.
Producer of Professional Lighting Fittings



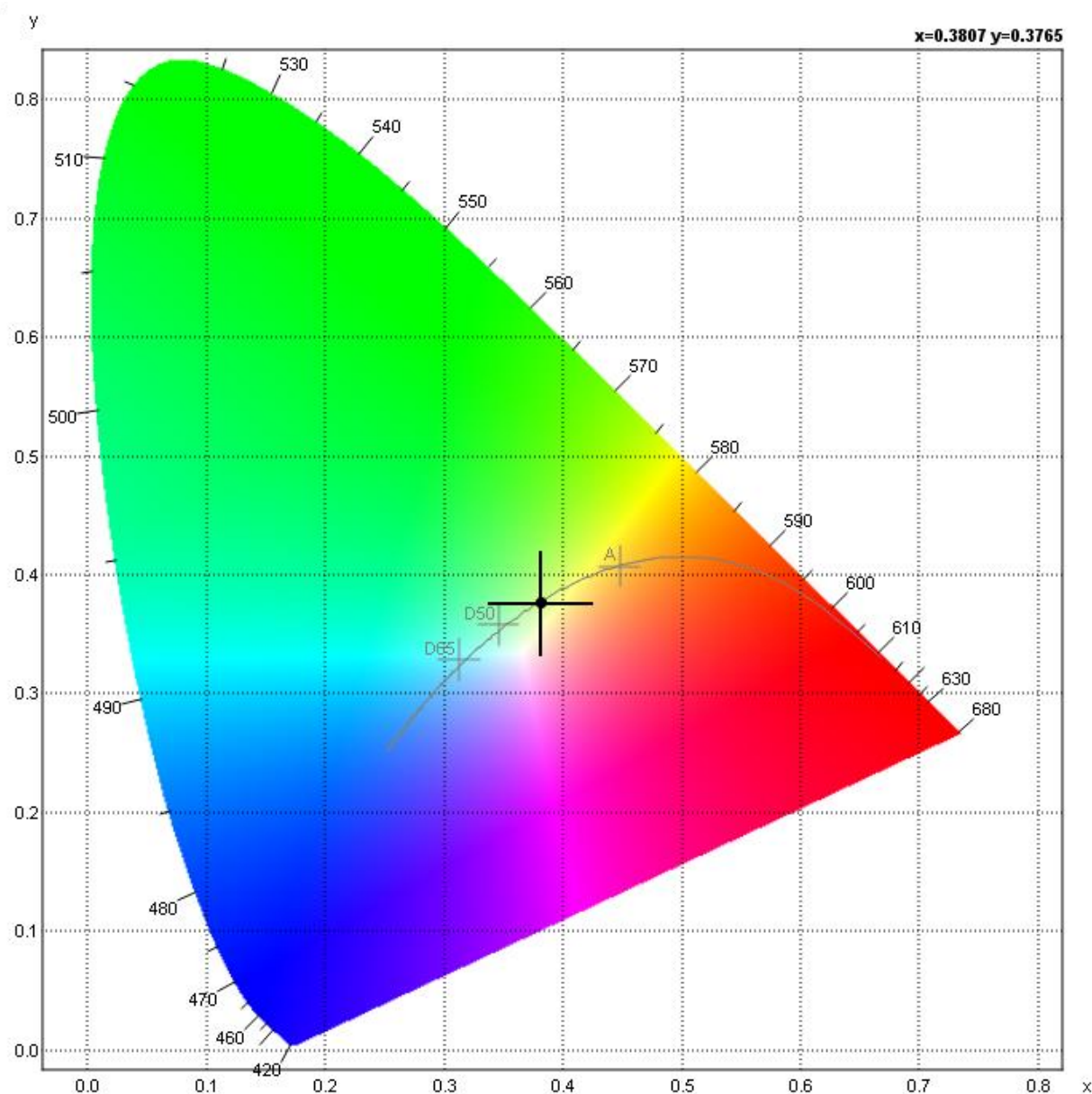
5. SPHERE SPECTROMETRY (CIE Colorimetric Parameters)





LUG[®]

LUG Light Factory Ltd.
Producer of Professional Lighting Fittings



CCT	3991 K
CRI	72,33
x	0,3807
y	0,3765

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

6. TEST INFORMATION

INTEGRATION TIME: AUTO
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	☐
2.	INTEGRATION SPHERE DIAMETER: 1.50M, 4π	LAB/UP/13	☐
3.	SPECTROMETER UPRTEK ADVANCED MK350S, SCAN RANGE: 380NM~780NM:1NM	LAB/PP/14	☐
4.	GONIOMETER TYPE C-GAMA, GONIOMETR GLG-20-1500, G1500-019 4/2017, PHOTOMETRIC DISTANCE 10.478M	LAB/UP/26	☒
5.	POWERMETER WITH HARMONIC ANALISER: PF9811 EVERFINE, ACCURACY: CLASS 0,5	LAB/PP/25	☒
6.	AC TESTING POWER SOURCE DPS1005 EVERFINE	LAB/UP/37	☒
7.	DIGITAL MULTIMETER, TEKTRONIX	LAB/PP/03	☐
8.	SPEKTROMETER GL SPECTIS 1.0 FLICKER VIS XT010065/16J00129	LAB/PP/29	☐
9.	SPEKTROMETER GL SPECTIS 1.0 VIS GLX10 X0010261/B14W0060	LAB/PP/30	☒
10.	SPEKTROMETER GL SPECTIS 5.0 UV-VIS-NIR XT050149/1104N069	LAB/PP/31	☐
11.	DIGITAL LUXMETER L-100 379/2009	LAB/PP/01	☐
12.	DIGITAL TEMPERATURE&HUMIDITY LOGGER TR-72WF 4214 085A	LAB/PP/15	☒

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.