



Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Lab Code: 200899-0

Moving Mirror Goniophotometer Test Report

Standard(s): IES LM-63, IES LM-79, ANSI C82.77

Customer ANDlight, 1951 Franklin St., Vancouver, British Columbia , Canada, V5L 0C7

General Information		Lamp Details: CY4452		Driver Details: CY2019	
DUT Lab ID	SRIS 2832-7	Seasoning	0 Hour	Type	LED Power Supply
Lamp Type	LED/SSL	Test Product	BUT-60-CW-35	Manufacturer	Meanwell
Current Mode	AC	Manufacturer	EPISTAR	Catalog No.	IDLV-45-12
Test Report	S2008172-R1	Lamp Catalog No.	OMNICHIP (320404-xx-300-12-4.4)	Maximum Power	45 W
Test Date	17 August 2020	Drive Current	30 mA	Input Voltage	120.00 V
Report Date	20 November 2020	Nominal Color	3500 K	Operating Frequency	60 Hz
Ambient	25.1 °C	Burning Position	Junction Axial	Input Power	22.15 W

Luminaire Data

General Information		Optics		Aperture (feet)	
Manufacturer	ANDlight	Reflector	None	X	0.0000
Name	BUTTON	Housing	Aluminum Body c/w Nylon Rope	Y	-1.9583
Catalog No.	BUT-60-CW-35	Lens	Opalin Acrylic Diffuser	Z	-1.9583

Stabilization Time: 1 hour

Approved Signatory: Chrisnel Blot

Signature:



Luminaire Test Method

Precise installation and alignment of the luminaire to the rotation axis of the photometer is governed by a servomotor controlled via a microcontroller. A laser is used to validate the luminaire positioning. Before photometric measurements are taken, luminaire is operated long enough to reach stabilization and temperature equilibrium.

All movement commands issued to the photometer axes are mediated by the software to ensure the motion is within the limits of operation. The photometric detector used is a silicon detector corrected to closely match the spectral luminous efficiency photopic curve with a quality index less than 1.5%. Proper shielding is incorporated to the photometric test bench such that only the light from the unit under test is measured.

Luminous intensity measurements are performed at a distance great enough so that the inverse-square law applies. During each measurement the computer records the luminous intensity associated to the corresponding angles of radiation, as well as input electrical operational parameters and temperature measurements. Candela values are reported in IES format as per LM-63.

Equipment, reference standards are traceable to National Institute of Standards and Technology (NIST) and National Research Council of Canada (NRC).





Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Electrical Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Power Supply	iRDC	CIF-3000A	974998	N.P.C.R.	N.P.C.R.
Input Power Meter	Yokogawa	WT210	27E116584	2020/07/22	2021/09/22
Output Power Meter	N/A	N/A	N/A	N.P.C.R.	N.P.C.R.

Photometric Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Photometer	N/A	N/A	N/A	N.P.C.R.	N.P.C.R.
Photodetector	INPHORA	IPR-PDET 19	110802	2019/09/05	2020/09/05

Environment Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Temperature Humidity Sensor	Omega	HH311	120504176	2020/07/16	2021/07/16



Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



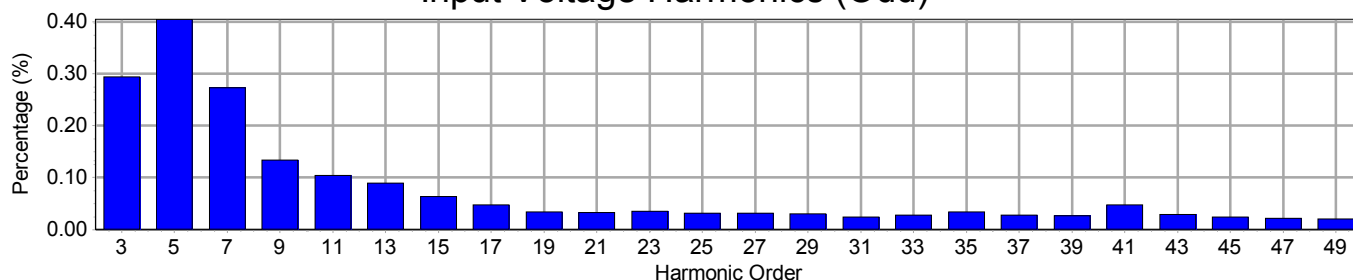
Lab Code: 200899-0

Electrical Measurements

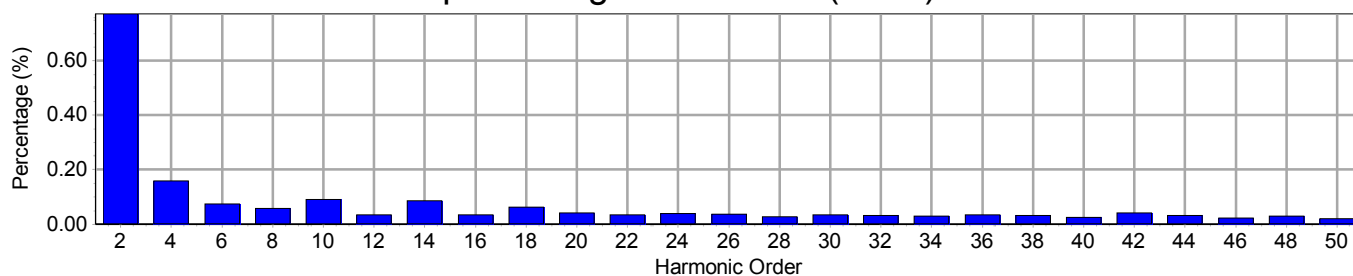
Input

Frequency	60 Hz	Active Power	22.15 W	THDV [ANSI]	1.02 %
Voltage	120.2 V(rms)	Apparent Power	22.93 VA	THDA [ANSI]	6.87 %
Current	0.1907 A(rms)	Power Factor	0.966	Max. Harmonic At	3rd order

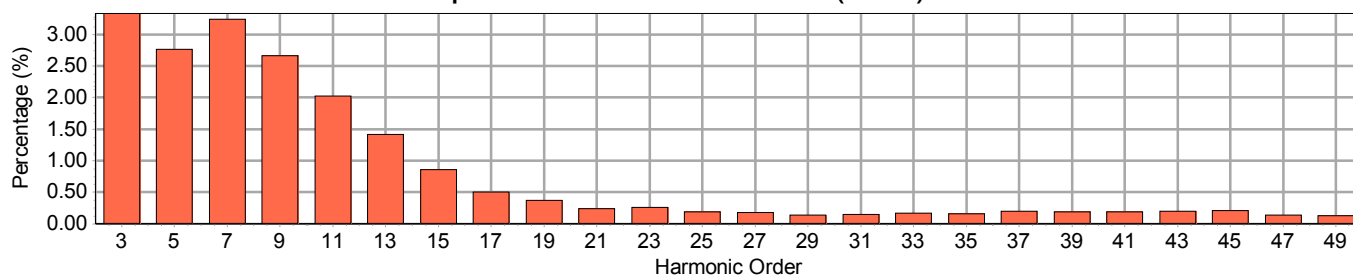
Input Voltage Harmonics (Odd)



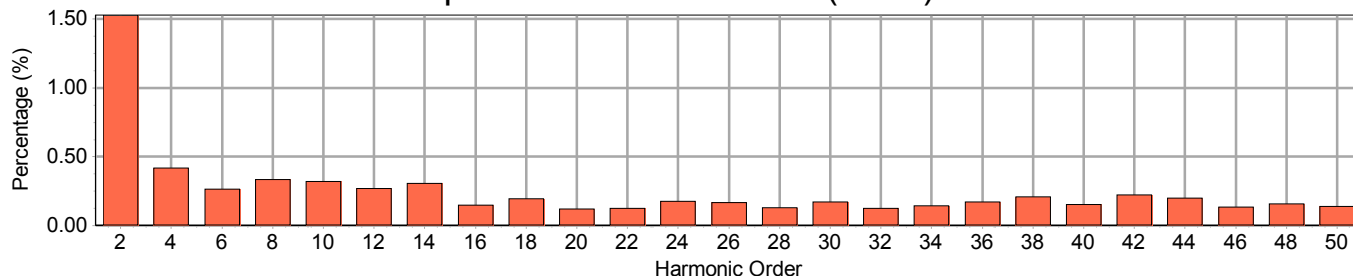
Input Voltage Harmonics (Even)



Input Current Harmonics (Odd)



Input Current Harmonics (Even)





Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Lab Code: 200899-0



Harmonic Measurements

Odd Harmonics				Even Harmonics			
Harmonic Order	Frequency (HZ)	Voltage Harmonics (%)	Current Harmonics (%)	Harmonic Order	Frequency (HZ)	Voltage Harmonics (%)	Current Harmonics (%)
1	60	100.000	100.000	2	120	0.772	1.532
3	180	0.294	3.335	4	240	0.159	0.417
5	300	0.406	2.758	6	360	0.074	0.265
7	420	0.273	3.243	8	480	0.058	0.334
9	540	0.133	2.656	10	600	0.090	0.318
11	660	0.104	2.021	12	720	0.033	0.270
13	780	0.089	1.412	14	840	0.086	0.304
15	900	0.063	0.860	16	960	0.034	0.149
17	1020	0.047	0.502	18	1080	0.063	0.195
19	1140	0.034	0.365	20	1200	0.040	0.121
21	1260	0.033	0.242	22	1320	0.035	0.125
23	1380	0.036	0.260	24	1440	0.039	0.174
25	1500	0.032	0.187	26	1560	0.036	0.165
27	1620	0.032	0.175	28	1680	0.027	0.127
29	1740	0.030	0.137	30	1800	0.035	0.168
31	1860	0.024	0.147	32	1920	0.031	0.124
33	1980	0.028	0.165	34	2040	0.029	0.143
35	2100	0.034	0.162	36	2160	0.033	0.169
37	2220	0.028	0.203	38	2280	0.032	0.205
39	2340	0.026	0.190	40	2400	0.024	0.150
41	2460	0.047	0.191	42	2520	0.040	0.222
43	2580	0.029	0.202	44	2640	0.032	0.196
45	2700	0.025	0.208	46	2760	0.023	0.132
47	2820	0.022	0.139	48	2880	0.028	0.155
49	2940	0.020	0.129	50	3000	0.020	0.137



Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Photometric Report: S2008172-R1

Prepared for: ANDlight · Test Date: 17 August 2020

Luminaire: BUTTON · Lumcat: BUT-60-CW-35

Coefficients of Utilization - Zonal Cavity Method

RCR	RC	0.9				0.8				0.7				0.5			0.1			0
	RW	0.7	0.5	0.3	0.1	0.7	0.5	0.3	0.1	0.7	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0
0		116	116	116	116	107	107	107	107	99	99	99	99	83	83	83	56	56	56	50
1		101	93	86	80	92	85	79	74	84	78	73	68	64	60	56	41	38	36	30
2		89	78	68	60	81	71	63	56	74	65	57	51	53	47	42	32	29	26	21
3		80	66	56	47	73	61	51	44	66	55	47	40	45	38	33	27	23	20	15
4		73	57	47	38	66	53	43	35	60	48	39	32	39	32	26	23	19	15	11
5		66	50	39	32	60	46	36	29	54	42	33	27	34	27	22	20	16	12	9
6		60	44	34	26	55	41	31	24	50	37	28	22	30	23	18	18	14	10	7
7		55	40	30	23	50	36	27	21	46	33	25	19	27	20	15	16	12	9	6
8		51	36	26	19	46	33	24	18	42	30	22	16	24	18	13	14	10	7	5
9		47	32	23	17	43	29	21	15	39	27	19	14	22	16	11	13	9	6	4
10		44	29	20	15	40	27	19	14	36	25	17	12	20	14	10	12	8	5	3

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0 - 10	1	0.08	0.08
10 - 20	8	0.62	0.62
20 - 30	24	1.80	1.80
30 - 40	47	3.52	3.52
40 - 50	74	5.52	5.52
50 - 60	100	7.48	7.48
60 - 70	124	9.26	9.26
70 - 80	142	10.56	10.56
80 - 90	150	11.15	11.15
90 - 120	416	30.98	30.98
90 - 130	516	38.45	38.45
90 - 150	637	47.50	47.50
90 - 180	671	50.00	50.00
0 - 180	1342	100.00	100.00

Average Luminance (Cd/m²)

Angle	0 Degree	45 Degree	90 Degree
45.0	863	495	22
55.0	1090	858	35
65.0	1559	1212	46
75.0	3254	1910	72
85.0	8685	6947	267

Luminaire Luminous Flux: 1342

Measured Input Power: 22.15 W

Total Luminaire Efficiency: N/A

Luminaire Luminous Efficacy: 60.6 lm/W

Luminaire Spacing Criterion (0 Degree): 8.7747

Luminaire Spacing Criterion (90 Degree): 1.4712

Category: Up and Down

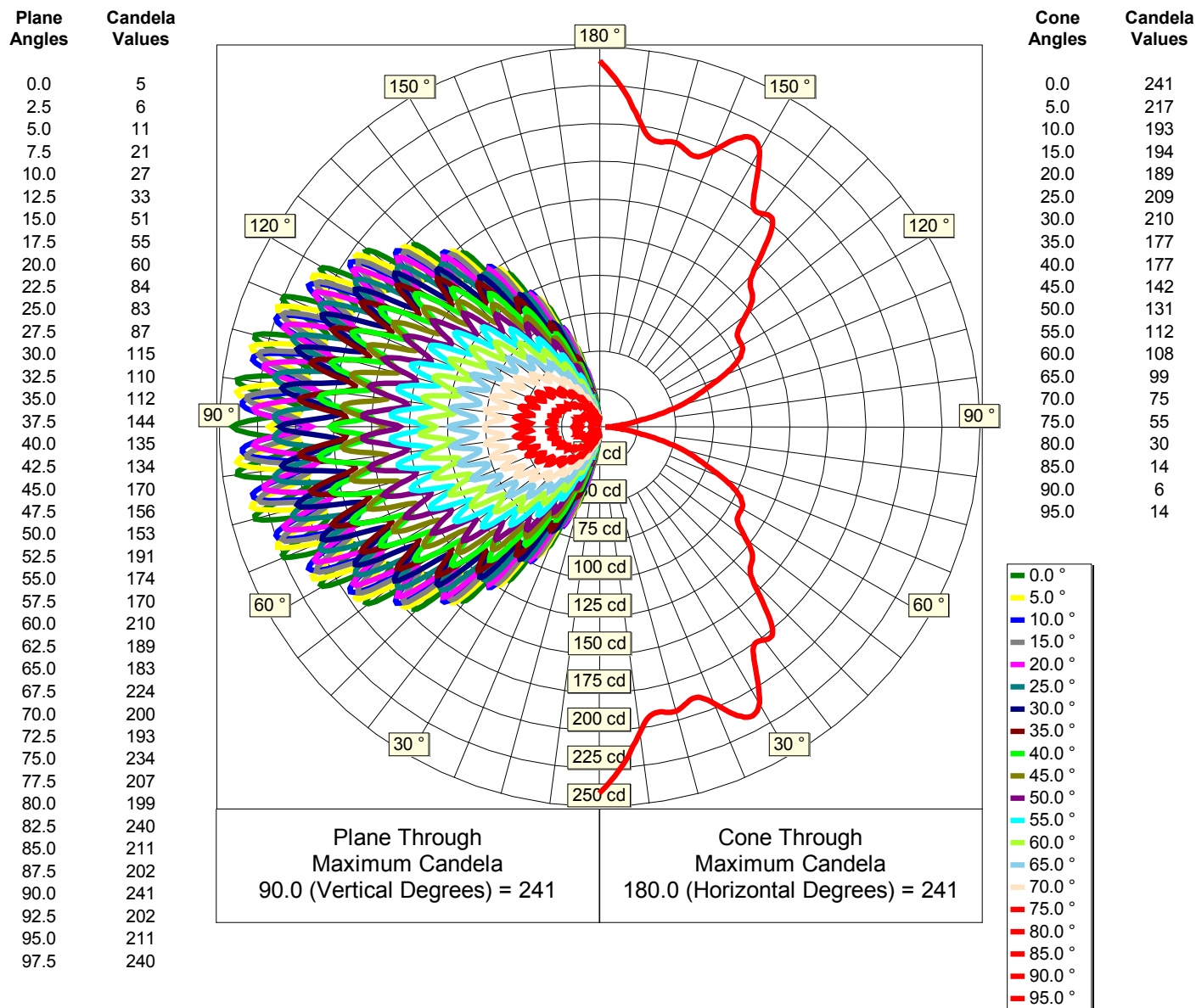


Photometric Report: S2008172-R1

Prepared for: ANDlight · Test Date: 17 August 2020

Luminaire: BUTTON · Lumcat: BUT-60-CW-35

Luminous Intensity - Polar Curve for each Plane(1)



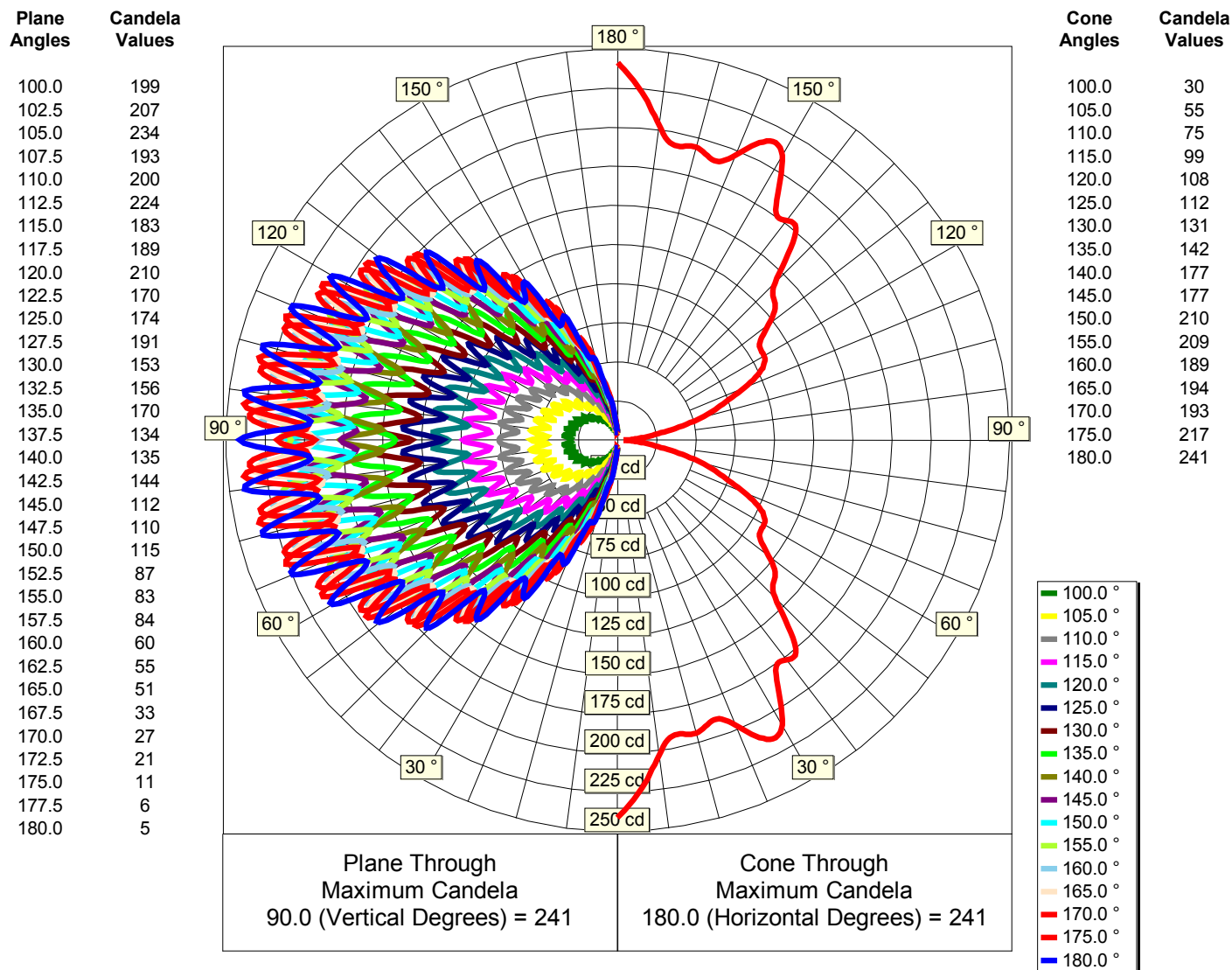


Photometric Report: S2008172-R1

Prepared for: ANDlight · Test Date: 17 August 2020

Luminaire: BUTTON · Lumcat: BUT-60-CW-35

Luminous Intensity - Polar Curve for each Plane(2)





IES File Headers

```

IESNA:LM-63
[ISSUEDATE]      17 August 2020
[TESTLAB]        Spectra Lux
[TEST]           S2008172-R1
[MANUFAC]        ANDlight
[LUMCAT]          BUT-60-CW-35
[LUMINAIRE]       BUTTON
[LAMP]            EPISTAR OMNICHIP (320404-xx-300-12-4.4) LEDs c/w Meanwell Driver IDLV-45-12 @ 120.00V
[_BURNING]        Horizontal (1,342 Luminaire Lumens)
[_REFLECTOR]      None
[_LENS]           Opalin Acrylic Diffuser
[_HOUSING]        Aluminum Body c/w Nylon Rope
[_NOMINAL COLOR] 3500 K
[_DRIVE CURRENT] 30 mA

```

Candela Table

Lateral Angles

	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0
V e r t i c a l	0.0	5	5	5	5	5	5	5	5	5
	2.5	6	6	6	7	6	6	6	6	6
	5.0	11	10	12	12	12	11	9	8	9
	7.5	21	19	17	17	17	18	17	15	12
	10.0	27	29	28	29	25	22	23	23	19
	12.5	33	33	38	36	38	34	27	26	24
	15.0	51	45	41	41	40	43	42	35	28
	17.5	55	61	57	60	51	45	47	48	39
	20.0	60	60	69	64	68	62	50	48	44
	22.5	84	74	67	67	66	72	71	58	46
	25.0	83	94	88	91	78	69	73	75	62
	27.5	87	87	99	92	98	90	73	71	63
	30.0	115	103	92	92	91	99	98	81	64
	32.5	110	124	117	120	104	92	98	100	84
	35.0	112	112	127	118	127	116	94	92	82
	37.5	144	129	115	115	114	125	123	103	82
	40.0	135	151	143	147	127	113	120	124	113
	42.5	134	134	152	142	152	140	114	111	99
	45.0	170	151	136	135	134	147	146	122	122
	47.5	156	175	166	171	148	131	140	145	131
A n g l e s	50.0	153	152	174	161	174	160	131	127	114
	52.5	191	172	153	153	151	166	166	138	139
	55.0	174	196	186	191	166	146	156	162	147
	57.5	170	168	192	178	192	178	145	142	127
	60.0	210	188	168	168	166	182	182	152	153
	62.5	189	213	202	207	180	159	170	177	161
	65.0	183	181	207	191	207	192	156	152	137
	67.5	224	201	179	180	177	194	195	163	164
	70.0	200	225	215	220	191	168	179	187	170
	72.5	193	190	218	201	218	202	165	160	144
	75.0	234	211	187	188	184	203	203	171	172
	77.5	207	234	223	228	199	175	186	194	176
	80.0	199	196	225	206	224	209	170	165	149
	82.5	240	216	192	193	188	208	209	175	176
	85.0	211	238	227	233	203	178	189	198	179
	87.5	202	198	227	208	226	211	173	167	150
	90.0	241	217	193	194	189	209	210	177	177



Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Lab Code: 200899-0

Lateral Angles

	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	
V e r t i c a l	92.5	202	198	227	208	226	211	173	167	150	156
	95.0	211	238	227	233	203	178	189	198	179	168
	97.5	240	216	192	193	188	208	209	175	176	141
	100.0	199	196	225	206	224	209	170	165	149	154
	102.5	207	234	223	228	199	175	186	194	176	165
	105.0	234	211	187	188	184	203	203	171	172	138
	107.5	193	190	218	201	218	202	165	160	144	150
	110.0	200	225	215	220	191	168	179	187	170	159
	112.5	224	201	179	180	177	194	195	163	164	131
	115.0	183	181	207	191	207	192	156	152	137	143
	117.5	189	213	202	207	180	159	170	177	161	149
	120.0	210	188	168	168	166	182	182	152	153	123
	122.5	170	168	192	178	192	178	145	142	127	132
	125.0	174	196	186	191	166	146	156	162	147	137
	127.5	191	172	153	153	151	166	166	138	139	111
	130.0	153	152	174	161	174	160	131	127	114	119
	132.5	156	175	166	171	148	131	140	145	131	121
	135.0	170	151	136	135	134	147	146	122	122	97
	137.5	134	134	152	142	152	140	114	111	99	103
	140.0	135	151	143	147	127	113	120	124	113	104
A n g l e s	142.5	144	129	115	115	114	125	123	103	103	82
	145.0	112	112	127	118	127	116	94	92	82	85
	147.5	110	124	117	120	104	92	98	100	91	84
	150.0	115	103	92	92	91	99	98	81	81	64
	152.5	87	87	99	92	98	90	73	71	63	65
	155.0	83	94	88	91	78	69	73	75	68	62
	157.5	84	74	67	67	66	72	71	58	58	46
	160.0	60	60	69	64	68	62	50	48	43	44
	162.5	55	61	57	60	51	45	47	48	43	39
	165.0	51	45	41	41	40	43	42	35	34	28
167.5	33	33	38	36	38	34	27	26	23	24	
170.0	27	29	28	29	25	22	23	23	21	19	
172.5	21	19	17	17	17	18	17	15	15	12	
175.0	11	10	12	12	12	11	9	9	8	9	
177.5	6	6	6	7	6	6	6	6	6	6	
180.0	5	5	5	5	5	5	5	5	5	5	



Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Lab Code: 200899-0

Lateral Angles

	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	90.0	95.0
V e r t i c a l	0.0	5	5	5	5	5	5	5	5	5
	2.5	6	6	5	6	5	5	5	5	5
	5.0	9	8	7	6	6	5	6	6	6
	7.5	11	10	9	9	7	7	6	5	5
	10.0	15	14	11	10	8	7	6	5	5
	12.5	23	20	17	12	10	7	6	5	6
	15.0	25	21	19	17	13	10	7	5	4
	17.5	30	28	21	18	14	11	8	5	5
	20.0	42	36	30	21	17	11	8	6	5
	22.5	42	35	32	28	21	15	9	6	4
	25.0	48	45	33	29	21	17	11	6	5
	27.5	63	54	45	31	26	16	11	8	5
	30.0	59	49	47	41	30	21	12	7	4
	32.5	66	62	46	39	29	23	15	7	5
	35.0	83	71	60	42	35	22	15	9	5
	37.5	76	63	60	53	40	28	15	8	4
	40.0	82	77	58	50	37	29	19	9	5
	42.5	101	87	74	52	43	27	18	10	5
	45.0	90	76	73	65	49	34	19	9	4
	47.5	97	91	68	60	44	35	23	10	5
A n g l e s	50.0	117	100	87	61	51	32	21	12	5
	52.5	103	87	84	75	57	40	22	10	5
	55.0	109	104	78	68	50	41	26	11	6
	57.5	130	112	97	69	58	37	24	13	6
	60.0	114	96	93	84	64	46	25	11	5
	62.5	120	114	85	75	56	45	29	13	5
	65.0	141	122	106	75	64	40	26	15	5
	67.5	122	103	100	91	69	50	27	12	5
	70.0	127	121	91	80	60	49	32	14	6
	72.5	149	128	112	80	68	43	29	16	5
	75.0	127	108	105	95	73	53	29	13	5
	77.5	133	126	95	84	63	51	34	15	6
	80.0	154	132	116	83	71	44	30	16	6
	82.5	131	111	108	98	75	55	30	14	5
	85.0	136	129	97	85	64	52	34	15	6
	87.5	156	134	118	84	72	45	30	16	6
	90.0	131	112	108	99	75	55	30	14	6
	92.5	156	134	118	84	72	45	30	16	6
	95.0	136	129	97	85	64	52	34	15	6
	97.5	131	111	108	98	75	55	30	14	5
	100.0	154	132	116	83	71	44	30	16	6
	102.5	133	126	95	84	63	51	34	15	6
	105.0	127	108	105	95	73	53	29	13	5
	107.5	149	128	112	80	68	43	29	16	5
	110.0	127	121	91	80	60	49	32	14	6
	112.5	122	103	100	91	69	50	27	12	5
	115.0	141	122	106	75	64	40	26	15	5
	117.5	120	114	85	75	56	45	29	13	5
	120.0	114	96	93	84	64	46	25	11	5
	122.5	130	112	97	69	58	37	24	13	6
	125.0	109	104	78	68	50	41	26	11	6
	127.5	103	87	84	75	57	40	22	10	5
	130.0	117	100	87	61	51	32	21	12	5
	132.5	97	91	68	60	44	35	23	10	5



Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Lateral Angles

	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	90.0	95.0	
V e r t i c a l	135.0	90	76	73	65	49	34	19	9	4	9
	137.5	101	87	74	52	43	27	18	10	5	10
	140.0	82	77	58	50	37	29	19	9	5	9
	142.5	76	63	60	53	40	28	15	8	4	8
	145.0	83	71	60	42	35	22	15	9	5	9
	147.5	66	62	46	39	29	23	15	7	5	7
	150.0	59	49	47	41	30	21	12	7	4	7
	152.5	63	54	45	31	26	16	11	8	5	8
	155.0	48	45	33	29	21	17	11	6	5	6
	157.5	42	35	32	28	21	15	9	6	4	6
	160.0	42	36	30	21	17	11	8	6	5	6
	162.5	30	28	21	18	14	11	8	5	5	5
	165.0	25	21	19	17	13	10	7	5	4	5
	167.5	23	20	17	12	10	7	6	6	5	6
	170.0	15	14	11	10	8	7	6	5	5	5
	172.5	11	10	9	9	7	7	6	5	5	5
	175.0	9	8	7	6	6	5	5	6	6	6
	177.5	6	6	5	6	5	5	5	5	5	5
	180.0	5	5	5	5	5	5	5	5	5	5
A n g l e s											



Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Lab Code: 200899-0

Lateral Angles

	100.0	105.0	110.0	115.0	120.0	125.0	130.0	135.0	140.0	145.0
V e r t i c a l	0.0	5	5	5	5	5	5	5	5	5
	2.5	5	5	5	6	5	6	6	6	6
	5.0	5	5	6	6	7	8	9	9	9
	7.5	6	7	7	9	9	10	11	12	15
	10.0	6	7	8	10	11	14	15	19	21
	12.5	6	7	10	12	17	20	23	24	23
	15.0	7	10	13	17	19	21	25	28	34
	17.5	8	11	14	18	21	28	30	39	43
	20.0	8	11	17	21	30	36	42	44	43
	22.5	9	15	21	28	32	35	42	46	58
	25.0	11	17	21	29	33	45	48	62	68
	27.5	11	16	26	31	45	54	63	65	63
	30.0	12	21	30	41	47	49	59	64	81
	32.5	15	23	29	39	46	62	66	84	91
	35.0	15	22	35	42	60	71	83	85	82
	37.5	15	28	40	53	60	63	76	82	103
	40.0	19	29	37	50	58	77	82	104	113
	42.5	18	27	43	52	74	87	101	103	99
	45.0	19	34	49	65	73	76	90	97	122
	47.5	23	35	44	60	68	91	97	121	131
A n g l e s	50.0	21	32	51	61	87	100	117	119	114
	52.5	22	40	57	75	84	87	103	111	139
	55.0	26	41	50	68	78	104	109	137	147
	57.5	24	37	58	69	97	112	130	132	127
	60.0	25	46	64	84	93	96	114	123	153
	62.5	29	45	56	75	85	114	120	149	161
	65.0	26	40	64	75	106	122	141	143	137
	67.5	27	50	69	91	100	103	122	131	164
	70.0	32	49	60	80	91	121	127	159	170
	72.5	29	43	68	80	112	128	149	150	144
	75.0	29	53	73	95	105	108	127	138	172
	77.5	34	51	63	84	95	126	133	165	176
	80.0	30	44	71	83	116	132	154	154	149
	82.5	30	55	75	98	108	111	131	141	176
	85.0	34	52	64	85	97	129	136	168	179
	87.5	30	45	72	84	118	134	156	156	150
	90.0	30	55	75	99	108	112	131	142	177
	92.5	30	45	72	84	118	134	156	156	150
	95.0	34	52	64	85	97	129	136	168	179
	97.5	30	55	75	98	108	111	131	141	176
	100.0	30	44	71	83	116	132	154	154	149
	102.5	34	51	63	84	95	126	133	165	176
	105.0	29	53	73	95	105	108	127	138	172
	107.5	29	43	68	80	112	128	149	150	144
	110.0	32	49	60	80	91	121	127	159	170
	112.5	27	50	69	91	100	103	122	131	164
	115.0	26	40	64	75	106	122	141	143	137
	117.5	29	45	56	75	85	114	120	149	161
	120.0	25	46	64	84	93	96	114	123	153
	122.5	24	37	58	69	97	112	130	132	127
	125.0	26	41	50	68	78	104	109	137	147
	127.5	22	40	57	75	84	87	103	111	139
	130.0	21	32	51	61	87	100	117	119	114
	132.5	23	35	44	60	68	91	97	121	131



Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Lateral Angles

	100.0	105.0	110.0	115.0	120.0	125.0	130.0	135.0	140.0	145.0	
V e r t i c a l	135.0	19	34	49	65	73	76	90	97	122	122
	137.5	18	27	43	52	74	87	101	103	99	111
	140.0	19	29	37	50	58	77	82	104	113	124
	142.5	15	28	40	53	60	63	76	82	103	103
	145.0	15	22	35	42	60	71	83	85	82	92
	147.5	15	23	29	39	46	62	66	84	91	100
	150.0	12	21	30	41	47	49	59	64	81	81
	152.5	11	16	26	31	45	54	63	65	63	71
	155.0	11	17	21	29	33	45	48	62	68	75
	157.5	9	15	21	28	32	35	42	46	58	58
	160.0	8	11	17	21	30	36	42	44	43	48
	162.5	8	11	14	18	21	28	30	39	43	48
	165.0	7	10	13	17	19	21	25	28	34	35
	167.5	6	7	10	12	17	20	23	24	23	26
	170.0	6	7	8	10	11	14	15	19	21	23
	172.5	6	7	7	9	9	10	11	12	15	15
	175.0	5	5	6	6	7	8	9	9	8	9
177.5	5	5	5	6	5	6	6	6	6	6	
180.0	5	5	5	5	5	5	5	5	5	5	
A n g l e s											



Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Lab Code: 200899-0

Lateral Angles

	150.0	155.0	160.0	165.0	170.0	175.0	180.0
V e r t i c a l A n g l e s	0.0	5	5	5	5	5	5
	2.5	6	6	6	7	6	6
	5.0	9	11	12	12	12	11
	7.5	17	18	17	17	19	21
	10.0	23	22	25	29	28	27
	12.5	27	34	38	36	38	33
	15.0	42	43	40	41	41	45
	17.5	47	45	51	60	57	61
	20.0	50	62	68	64	69	60
	22.5	71	72	66	67	67	74
	25.0	73	69	78	91	88	94
	27.5	73	90	98	92	99	87
	30.0	98	99	91	92	92	103
	32.5	98	92	104	120	117	124
	35.0	94	116	127	118	127	112
	37.5	123	125	114	115	115	129
	40.0	120	113	127	147	143	151
	42.5	114	140	152	142	152	134
	45.0	146	147	134	135	136	151
	47.5	140	131	148	171	166	175
	50.0	131	160	174	161	174	152
	52.5	166	166	151	153	153	172
	55.0	156	146	166	191	186	196
	57.5	145	178	192	178	192	168
	60.0	182	182	166	168	168	188
	62.5	170	159	180	207	202	213
	65.0	156	192	207	191	207	181
	67.5	195	194	177	180	179	201
	70.0	179	168	191	220	215	225
	72.5	165	202	218	201	218	190
	75.0	203	203	184	188	187	211
	77.5	186	175	199	228	223	234
	80.0	170	209	224	206	225	196
	82.5	209	208	188	193	192	216
	85.0	189	178	203	233	227	238
	87.5	173	211	226	208	227	198
	90.0	210	209	189	194	193	217
	92.5	173	211	226	208	227	198
	95.0	189	178	203	233	227	238
	97.5	209	208	188	193	192	216
	100.0	170	209	224	206	225	196
	102.5	186	175	199	228	223	234
	105.0	203	203	184	188	187	211
	107.5	165	202	218	201	218	190
	110.0	179	168	191	220	215	225
	112.5	195	194	177	180	179	201
	115.0	156	192	207	191	207	181
	117.5	170	159	180	207	202	213
	120.0	182	182	166	168	168	188
	122.5	145	178	192	178	192	168
	125.0	156	146	166	191	186	196
	127.5	166	166	151	153	153	172
	130.0	131	160	174	161	174	152
	132.5	140	131	148	171	166	175



Spectra Lux

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada
Tel.: (514) 332-0082 Fax: (514) 332-3590 www.spectralux.ca



Lateral Angles

	150.0	155.0	160.0	165.0	170.0	175.0	180.0
135.0	146	147	134	135	136	151	170
137.5	114	140	152	142	152	134	134
140.0	120	113	127	147	143	151	135
142.5	123	125	114	115	115	129	144
145.0	94	116	127	118	127	112	112
147.5	98	92	104	120	117	124	110
150.0	98	99	91	92	92	103	115
152.5	73	90	98	92	99	87	87
155.0	73	69	78	91	88	94	83
157.5	71	72	66	67	67	74	84
160.0	50	62	68	64	69	60	60
162.5	47	45	51	60	57	61	55
165.0	42	43	40	41	41	45	51
167.5	27	34	38	36	38	33	33
170.0	23	22	25	29	28	29	27
172.5	17	18	17	17	17	19	21
175.0	9	11	12	12	12	10	11
177.5	6	6	6	7	6	6	6
180.0	5	5	5	5	5	5	5

**V
e
r
t
i
c
a
l**

**A
n
g
l
e
s**