



Moving Mirror Goniophotometer Test Report

Standard(s): IES LM-79:2019, ANSI C82.2:2002, ANSI C82.77-10:2021

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

General Information		Lamp Details: CY5357		Driver Details: CY2511	
DUT Lab ID	SRIS 3144-1	Seasoning	0 Hour	Type	LED Power Supply
Lamp Type	LED/SSL	Test Product	IRI-P-90	Manufacturer	EUCHIPS
Current Mode	AC	Manufacturer	ADURA LED	Catalog No.	PUP40T-1LMC-1200
Test Report	S2208301-R1	Lamp Catalog No.	1970-A-30-90	Maximum Power	40 W
Test Date	30 August 2022	Drive Current	900mA	Input Voltage	120.00 V
Report Date	30 August 2022	Nominal Color	3000 K	Operating Frequency	60 Hz
Ambient	25.3 °C	Burning Position	Junction Axial	Input Power	37.01 W

Luminaire Data

General Information		Optics		Aperture (feet)	
Manufacturer	ANDlight	Optics	Kaleidoscopic Light Diffuser	X	-2.9500
Name	IRIS PENDANT 90	Housing	Acrylic Elliptical Shell	Y	-2.9500
Catalog No.	IRI-P-90	Lens	Crystalline Prismatic Acrylic Diffuser	Z	0.9833

Stabilization Time: 45 minutes

Approved Signatory: Chrisnel Blot

Signature: 



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

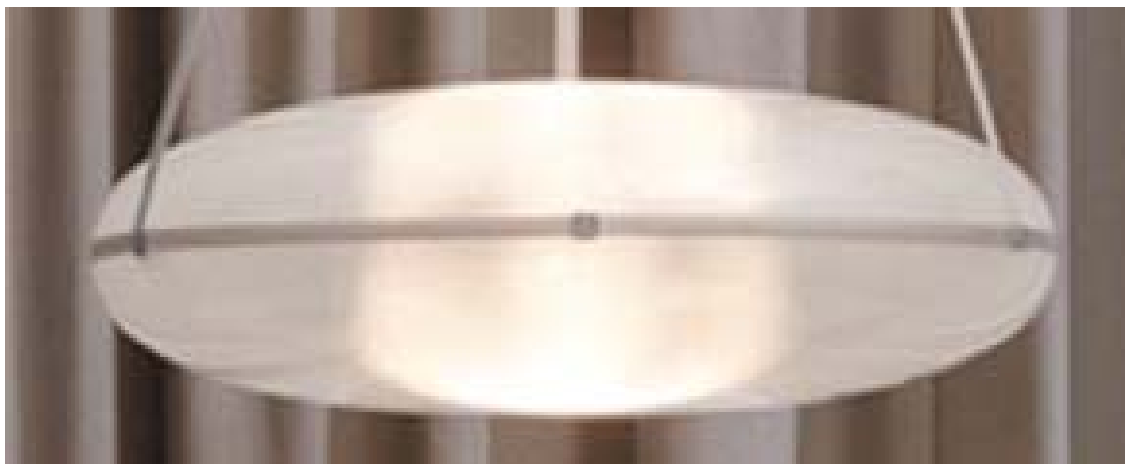
Luminaire Test Method

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



Lab Code: 200899-0

Electrical Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Power Supply	Adaptive Power System	FC-200	2300319	N.P.C.R.	N.P.C.R.
Input Power Meter	Yokogawa	WT210	27E116584	2021-09-20	2022-09-22
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	2021-09-05	2022-09-05

Environment Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Temperature Humidity Sensor	Omega	HH311	120504176	2021-07-13	2023-07-13

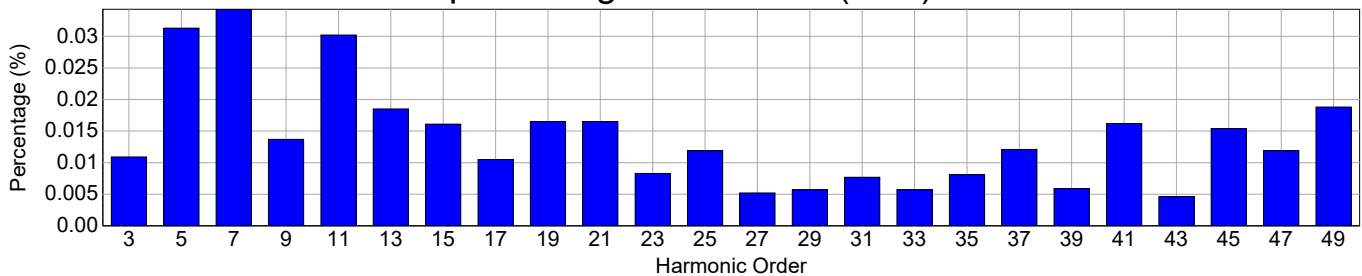


Electrical Measurements

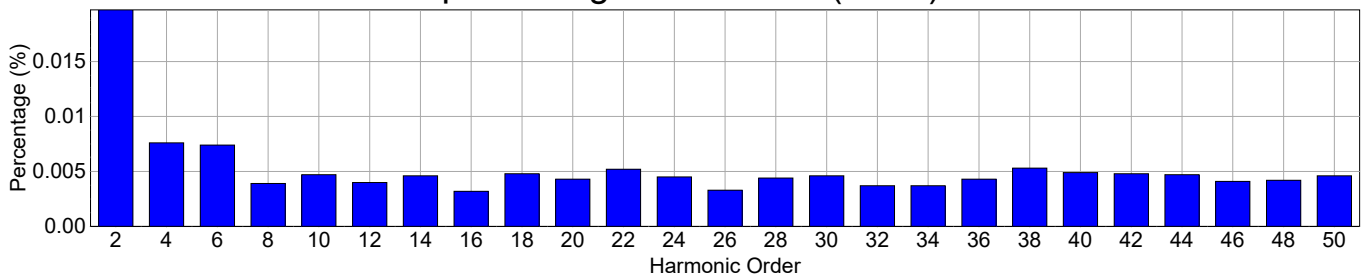
Input

Frequency	60 Hz	Active Power	37.01 W	THDV [ANSI]	0.08 %
Voltage	120.0 V(rms)	Apparent Power	37.39 VA	THDA [ANSI]	7.32 %
Current	0.3117 A(rms)	Power Factor	0.990	Max. Harmonic At	3rd order

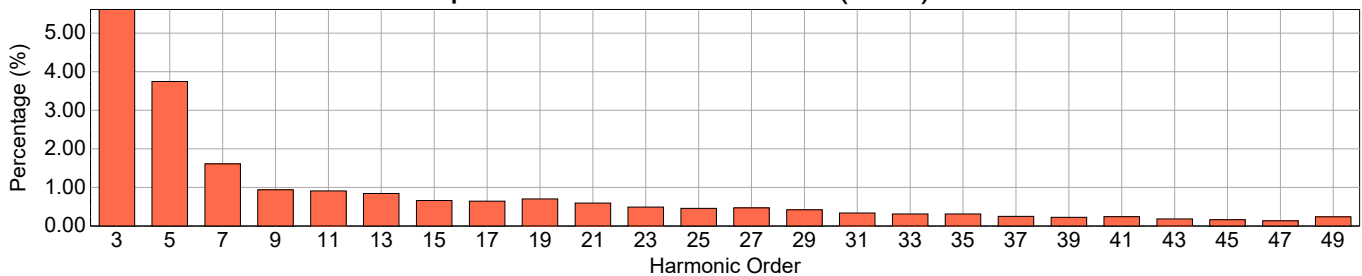
Input Voltage Harmonics (Odd)



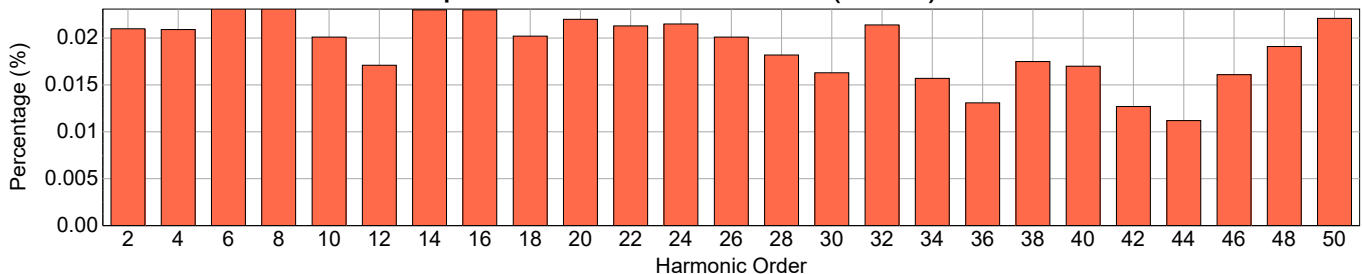
Input Voltage Harmonics (Even)



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	0.020	0.021
3	180	0.011	5.614	4	240	0.008	0.021
5	300	0.031	3.746	6	360	0.007	0.023
7	420	0.034	1.611	8	480	0.004	0.023
9	540	0.014	0.940	10	600	0.005	0.020
11	660	0.030	0.912	12	720	0.004	0.017
13	780	0.019	0.843	14	840	0.005	0.023
15	900	0.016	0.662	16	960	0.003	0.023
17	1020	0.011	0.645	18	1080	0.005	0.020
19	1140	0.017	0.703	20	1200	0.004	0.022
21	1260	0.017	0.594	22	1320	0.005	0.021
23	1380	0.008	0.493	24	1440	0.005	0.022
25	1500	0.012	0.459	26	1560	0.003	0.020
27	1620	0.005	0.469	28	1680	0.004	0.018
29	1740	0.006	0.420	30	1800	0.005	0.016
31	1860	0.008	0.339	32	1920	0.004	0.021
33	1980	0.006	0.314	34	2040	0.004	0.016
35	2100	0.008	0.311	36	2160	0.004	0.013
37	2220	0.012	0.252	38	2280	0.005	0.018
39	2340	0.006	0.227	40	2400	0.005	0.017
41	2460	0.016	0.241	42	2520	0.005	0.013
43	2580	0.005	0.185	44	2640	0.005	0.011
45	2700	0.015	0.166	46	2760	0.004	0.016
47	2820	0.012	0.136	48	2880	0.004	0.019
49	2940	0.019	0.237	50	3000	0.005	0.022



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

Photometric Report: S2208301-R1

Prepared for: ANDlight · Test Date: 30 August 2022

Luminaire: IRIS PENDANT 90 · Lumcat: IRI-P-90

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		104	99	93	89	96	91	87	83	88	84	80	76	71	68	65	47	46	44	39
2		95	85	77	71	87	79	72	66	80	72	67	61	61	56	53	40	38	36	31
3		86	74	65	58	79	69	61	54	72	63	56	51	53	48	43	35	32	30	26
4		78	65	56	48	72	60	52	45	66	56	48	42	47	41	36	31	28	25	21
5		72	58	48	41	66	53	45	38	60	49	42	36	42	36	31	28	24	22	18
6		66	51	42	35	60	48	39	33	55	44	37	31	37	31	27	25	22	19	16
7		61	46	37	31	56	43	35	29	51	40	32	27	34	28	23	23	19	17	14
8		56	42	33	27	52	39	31	25	47	36	29	24	31	25	21	21	17	15	12
9		52	38	29	24	48	35	28	22	44	33	26	21	28	22	18	19	16	13	11
10		49	35	26	21	45	32	25	20	41	30	23	19	26	20	16	18	14	12	10

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0 - 10	35	1.32	1.32
10 - 20	98	3.73	3.73
20 - 30	150	5.69	5.69
30 - 40	190	7.23	7.23
40 - 50	217	8.23	8.23
50 - 60	214	8.13	8.13
60 - 70	177	6.74	6.74
70 - 80	134	5.07	5.07
80 - 90	102	3.86	3.86
90 - 120	412	15.67	15.67
90 - 130	626	23.80	23.80
90 - 150	1033	39.26	39.26
90 - 180	1316	50.00	50.00
0 - 180	2632	100.00	100.00

Average Luminance (Cd/m²)

Angle	0 Degree	45 Degree	90 Degree
45.0	257	259	259
55.0	270	273	272
65.0	275	276	275
75.0	305	314	320
85.0	602	696	673

Luminaire Luminous Flux: 2632

Measured Input Power: 37.01 W

Total Luminaire Efficiency: N/A

Luminaire Luminous Efficacy: 71.1 lm/W

Luminaire Spacing Criterion (0 Degree): 1.2712

Luminaire Spacing Criterion (90 Degree): 1.2561

Category: Uplight and Downlight

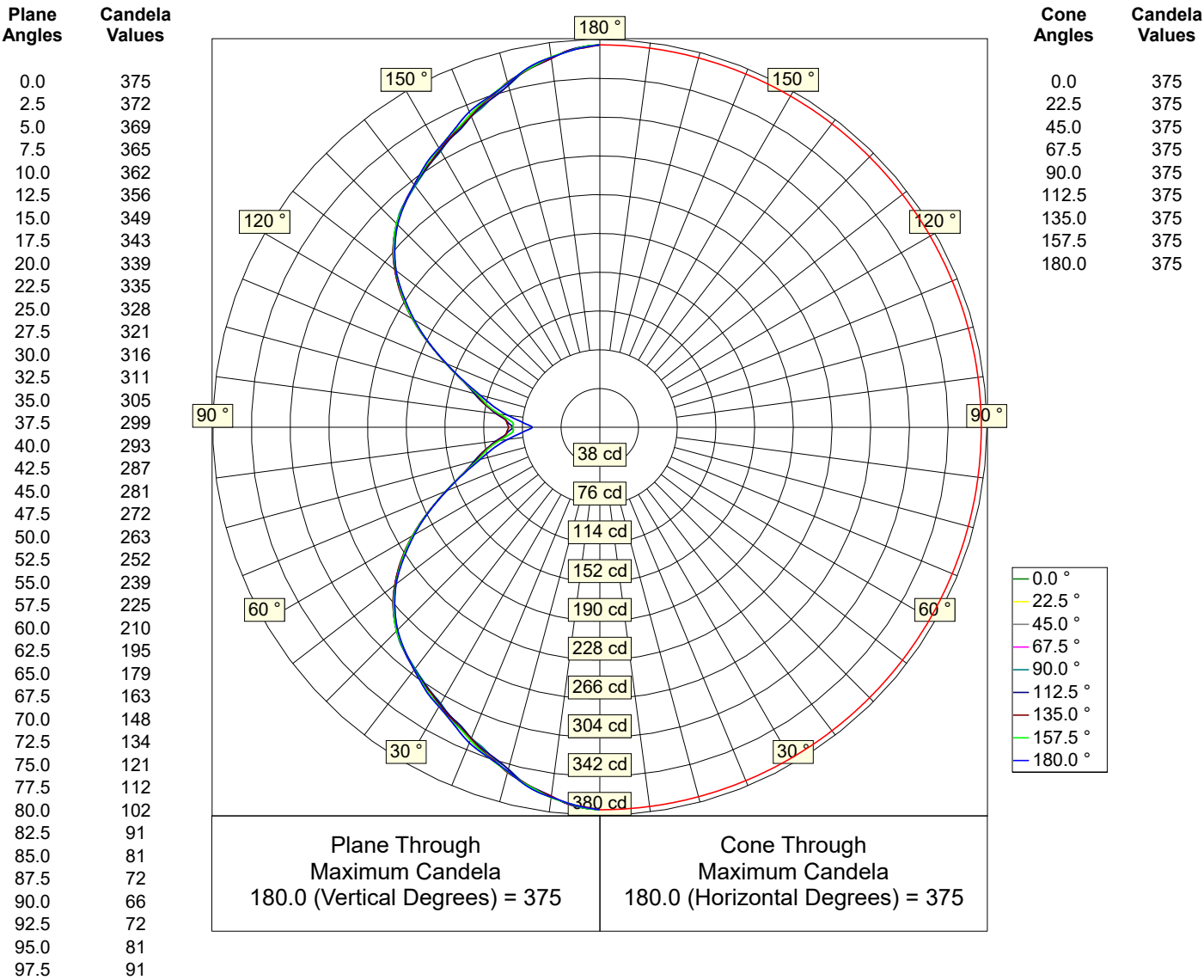


Photometric Report: S2208301-R1

Prepared for: ANDlight · Test Date: 30 August 2022

Luminaire: IRIS PENDANT 90 · Lumcat: IRI-P-90

Luminous Intensity - Polar Curve for each Plane(1)



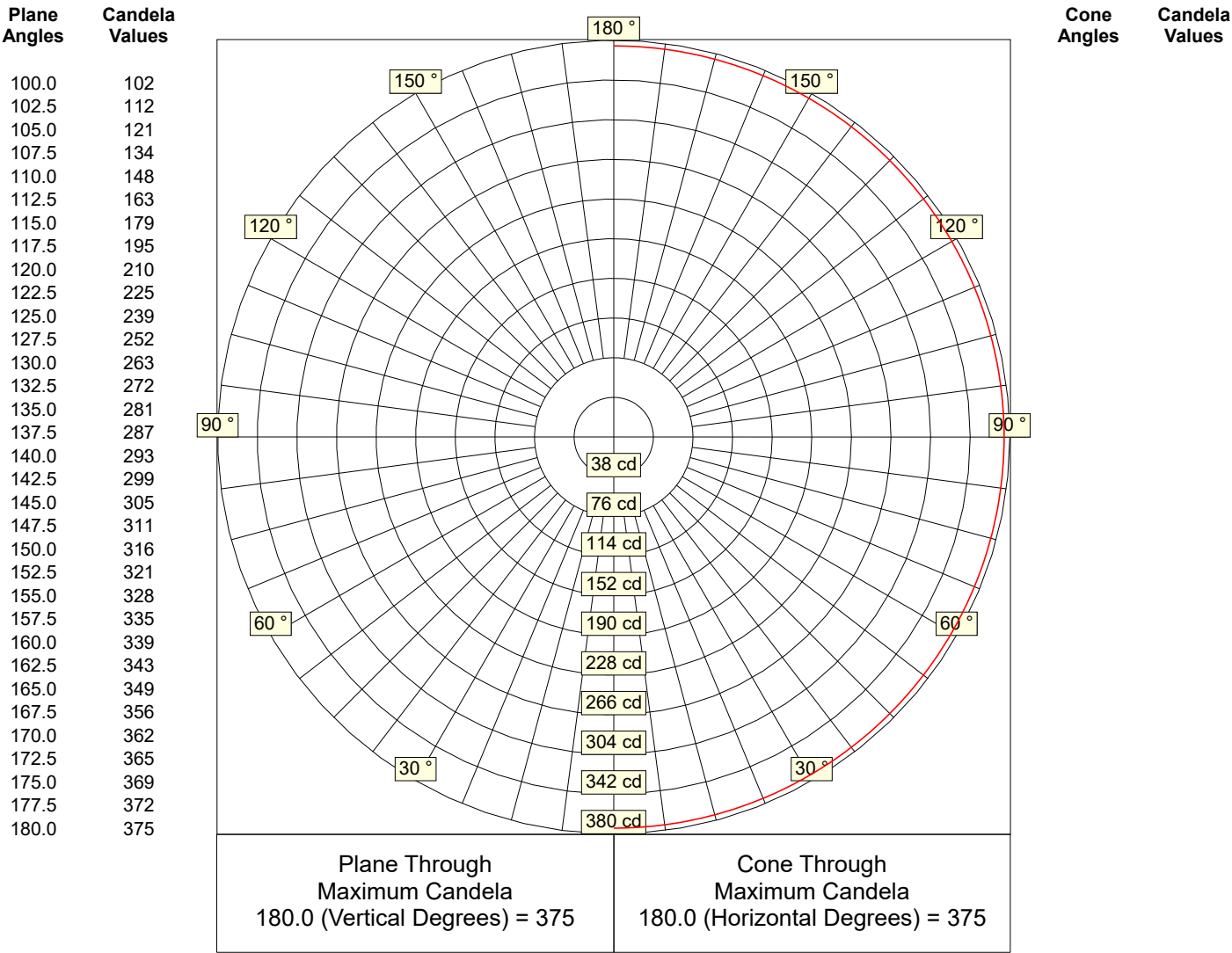


Photometric Report: S2208301-R1

Prepared for: ANDlight · Test Date: 30 August 2022

Luminaire: IRIS PENDANT 90 · Lumcat: IRI-P-90

Luminous Intensity - Polar Curve for each Plane(2)





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

IES File Headers

```
IESNA:LM-63
[ISSUEDATE]      30 August 2022
[TESTLAB]        Spectra Lux
[TEST]           S2208301-R1
[MANUFAC]        ANDlight
[LUMCAT]          IRI-P-90
[LUMINAIRE]       IRIS PENDANT 90
[LAMP]           Clusters of ADURA LED 1970-A-30-90 LEDs c/w EUCHIPS Driver PUP40T-1LMC-1200 @ 120.00V
[_BURNING]        Axial (2,632 Luminaire Lumens)
[_OPTICS]         Kaleidoscopic Light Diffuser
[_LENS]           Crystalline Prismatic Acrylic Diffuser
[_HOUSING]        Acrylic Elliptical Shell
[_NOMINAL COLOR] 3000 K
[_DRIVE CURRENT] 900mA
```

Candela Table

Lateral Angles

		0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
V e r t i c a l	0.0	375	375	375	375	375	375	375	375	375
	2.5	372	373	372	373	373	373	372	373	372
	5.0	369	369	370	370	370	370	370	369	369
	7.5	365	366	365	364	365	364	365	366	365
	10.0	362	360	360	360	360	360	360	360	362
	12.5	356	355	355	355	355	355	355	355	356
	15.0	349	349	350	347	346	347	350	349	349
	17.5	343	344	343	340	341	340	343	344	343
	20.0	339	338	337	336	334	336	337	338	339
	22.5	335	332	330	330	329	330	330	332	335
	25.0	328	325	325	323	323	323	325	325	328
	27.5	321	321	319	318	318	318	319	321	321
	30.0	316	315	314	313	312	313	314	315	316
	32.5	311	310	309	308	308	308	309	310	311
	35.0	305	305	305	303	303	303	305	305	305
	37.5	299	299	299	299	298	299	299	299	299
	40.0	293	294	293	294	293	294	293	294	293
	42.5	287	288	288	288	289	288	288	288	287
	45.0	281	282	282	282	282	282	282	282	281
	47.5	272	274	274	274	274	274	274	274	272
A n g l e s	50.0	263	264	265	265	264	265	265	264	263
	52.5	252	252	254	253	253	253	254	252	252
	55.0	239	240	241	241	241	241	241	240	239
	57.5	225	227	228	227	226	227	228	227	225
	60.0	210	212	213	212	211	212	213	212	210
	62.5	195	196	196	196	195	196	196	196	195
	65.0	179	179	180	179	179	179	180	179	179
	67.5	163	164	164	163	163	163	164	164	163
	70.0	148	149	149	149	148	149	149	149	148
	72.5	134	135	136	136	136	136	136	135	134
	75.0	121	124	125	127	128	127	125	124	121
	77.5	112	116	118	119	119	119	118	116	112
	80.0	102	109	110	111	111	111	110	109	102
	82.5	91	99	101	103	100	103	101	99	91
	85.0	81	91	94	94	90	94	94	91	81
	87.5	72	85	91	89	85	89	91	85	72
	90.0	66	85	90	85	85	85	90	85	66



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	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0	
V e r t i c a l	92.5	72	85	91	89	85	89	91	85	72
	95.0	81	91	94	94	90	94	94	91	81
	97.5	91	99	101	103	100	103	101	99	91
	100.0	102	109	110	111	111	111	110	109	102
	102.5	112	116	118	119	119	119	118	116	112
	105.0	121	124	125	127	128	127	125	124	121
	107.5	134	135	136	136	136	136	136	135	134
	110.0	148	149	149	149	148	149	149	149	148
	112.5	163	164	164	163	163	163	164	164	163
	115.0	179	179	180	179	179	179	180	179	179
	117.5	195	196	196	196	195	196	196	196	195
	120.0	210	212	213	212	211	212	213	212	210
	122.5	225	227	228	227	226	227	228	227	225
	125.0	239	240	241	241	241	241	241	240	239
	127.5	252	252	254	253	253	253	254	252	252
	130.0	263	264	265	265	264	265	265	264	263
	132.5	272	274	274	274	274	274	274	274	272
	135.0	281	282	282	282	282	282	282	282	281
A n g l e s	137.5	287	288	288	288	289	288	288	288	287
	140.0	293	294	293	294	293	294	293	294	293
	142.5	299	299	299	299	298	299	299	299	299
	145.0	305	305	305	303	303	303	305	305	305
	147.5	311	310	309	308	308	308	309	310	311
	150.0	316	315	314	313	312	313	314	315	316
	152.5	321	321	319	318	318	318	319	321	321
	155.0	328	325	325	323	323	323	325	325	328
	157.5	335	332	330	330	329	330	330	332	335
	160.0	339	338	337	336	334	336	337	338	339
	162.5	343	344	343	340	341	340	343	344	343
	165.0	349	349	350	347	346	347	350	349	349
	167.5	356	355	355	355	355	355	355	355	356
	170.0	362	360	360	360	360	360	360	360	362
	172.5	365	366	365	364	365	364	365	366	365
	175.0	369	369	370	370	370	370	370	369	369
	177.5	372	373	372	373	373	373	372	373	372
	180.0	375	375	375	375	375	375	375	375	375