



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: CY4960		Driver Details: CY2297	
DUT Lab ID	SRIS 2829-50	Seasoning	0 Hour	Type	LED Power Supply
Lamp Type	LED/SSL	Test Product	PIP-125-P-30	Manufacturer	Sorensen
Current Mode	AC	Manufacturer	Epistar	Catalog No.	DCS60-18E
Test Report	S2110015-R1	Lamp Catalog No.	(P/N 2016)	Maximum Power	1080 W
Test Date	1 October 2021	Drive Current	667.5 mA	Input Voltage	24.00 V
Report Date	8 October 2021	Nominal Color	3000 K	Input Current	667.5 mA
Ambient	24.4 °C	Burning Position	Junction Vertical Base Up	Input Power	16.03 W

Luminaire Data

General Information		Optics		Aperture (feet)	
Manufacturer	ANDlight	Reflector	None	X	-0.1250
Name	PIPELINE	Housing	Aluminum Body	Y	3.2917
Catalog No.	PIP-125-P-30	Lens	(1) Cylindrical Acrylic Diffuser	Z	-0.1250

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).





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Electrical Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Power Supply	Sorensen	DCS60-18E	0051B1176	N.P.C.R.	N.P.C.R.
Input Power Meter	Yokogawa	WT210	27E116584	2021/09/20	2022/09/22

Photometric Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Photometer	Keithley	6485	4081897	2021/07/20	2022/07/20
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	2022/07/13



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Lab Code: 200899-0

Photometric Report: S2110015-R1

Prepared for: ANDlight · Test Date: 01 October 2021

Luminaire: PIPELINE · Lumcat: PIP-125-P-30

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		120	120	120	120	115	115	115	115	110	110	110	110	101	101	101	86	86	86	82
1		108	102	97	93	103	98	94	89	99	94	90	86	87	83	80	73	71	69	66
2		99	89	82	75	94	86	79	73	90	82	76	71	76	71	66	64	61	58	55
3		90	79	70	63	86	76	68	61	82	73	65	60	67	61	56	57	53	50	47
4		83	70	61	54	79	68	59	52	76	65	57	51	60	54	48	52	47	43	41
5		77	63	53	47	73	61	52	46	70	58	50	44	54	48	42	47	42	38	36
6		71	57	48	41	68	55	46	40	65	53	45	39	49	43	37	43	38	34	32
7		66	52	43	36	63	50	42	36	60	48	41	35	45	38	34	40	35	31	28
8		61	47	39	33	59	46	38	32	56	44	37	31	42	35	30	37	32	28	26
9		58	44	35	30	55	42	34	29	53	41	34	29	38	32	27	34	29	25	23
10		54	40	32	27	52	39	32	26	50	38	31	26	36	29	25	32	27	23	21

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0 - 10	25	3.55	3.55
10 - 20	68	9.45	9.45
20 - 30	92	12.81	12.81
30 - 40	96	13.47	13.47
40 - 50	88	12.23	12.23
50 - 60	73	10.20	10.20
60 - 70	59	8.22	8.22
70 - 80	47	6.63	6.63
80 - 90	39	5.50	5.50
90 - 120	88	12.29	12.29
90 - 130	106	14.80	14.80
90 - 150	125	17.46	17.46
90 - 180	129	17.95	17.95
0 - 180	716	100.00	100.00

Average Luminance (Cd/m²)

Angle	0 Degree	45 Degree	90 Degree
45.0	1040	596	510
55.0	924	527	494
65.0	779	554	563
75.0	622	757	795
85.0	459	1988	2148

Luminaire Luminous Flux: 716

Measured Input Power: 16.03 W

Total Luminaire Efficiency: N/A

Luminaire Luminous Efficacy: 44.7 lm/W

Luminaire Spacing Criterion (0 Degree): 1.2470

Luminaire Spacing Criterion (90 Degree): 0.8459

Category: Up and Down

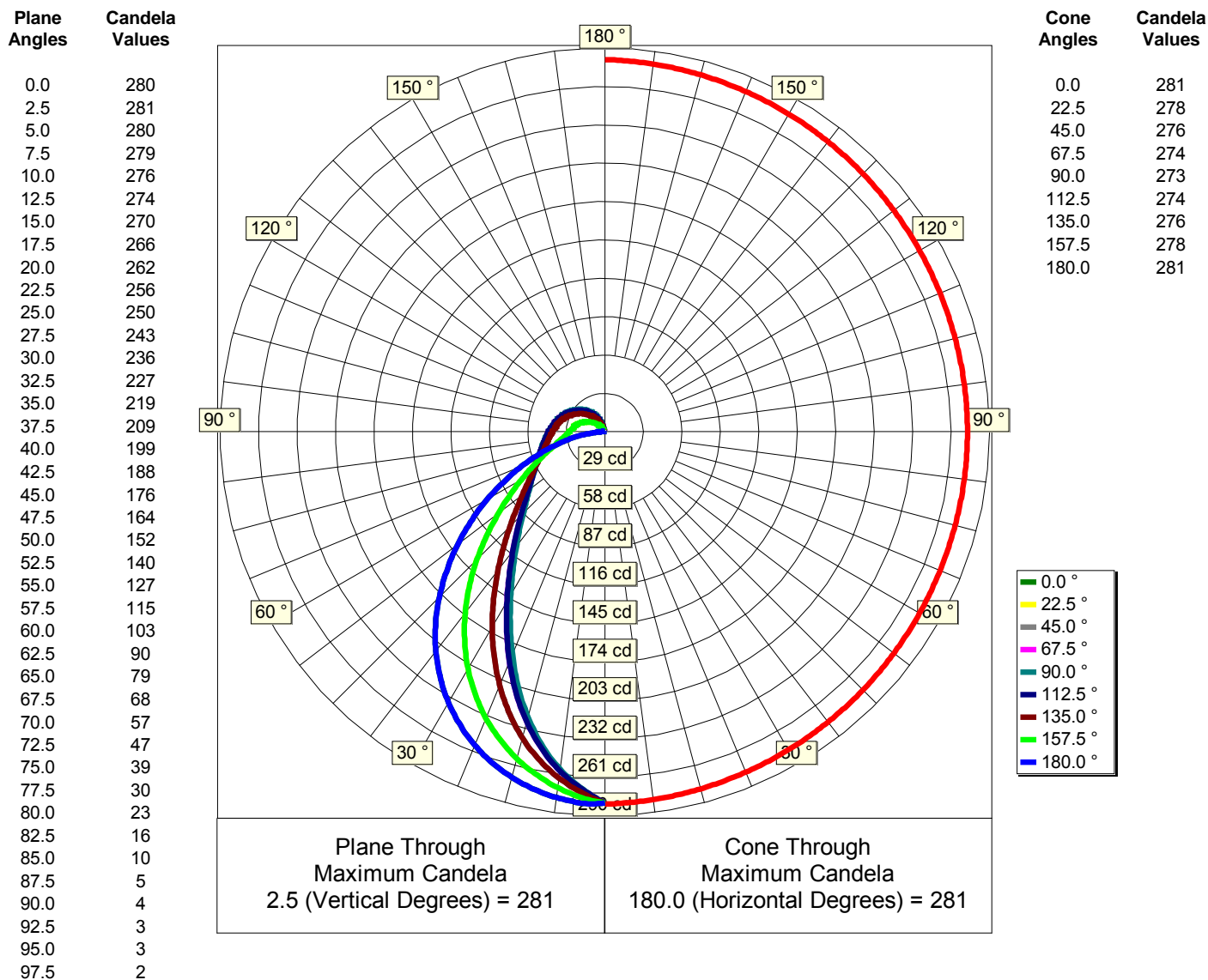


Photometric Report: S2110015-R1

Prepared for: ANDlight · Test Date: 01 October 2021

Luminaire: PIPELINE · Lumcat: PIP-125-P-30

Luminous Intensity - Polar Curve for each Plane(1)





Photometric Report: S2110015-R1

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Luminaire: PIPELINE · Lumcat: PIP-125-P-30

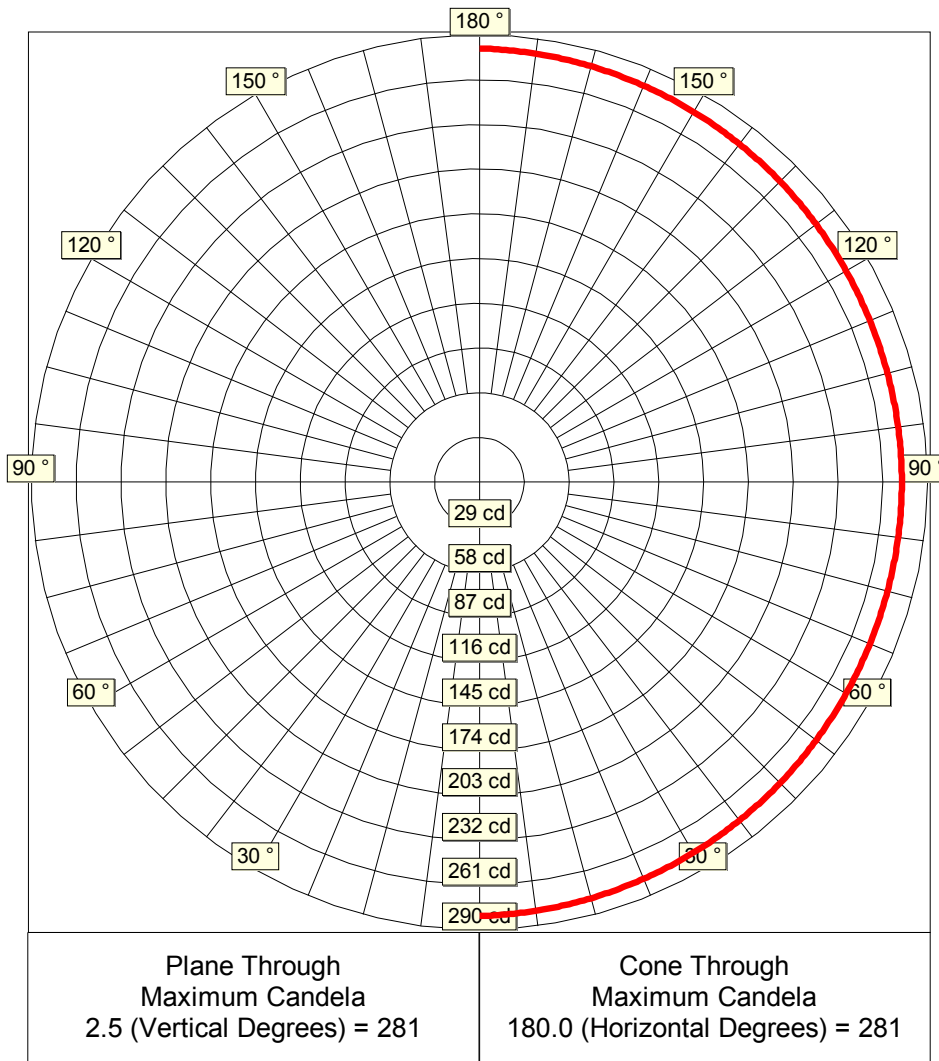
Luminous Intensity - Polar Curve for each Plane(2)

Plane
Angles

Plane Angles	Candela Values
100.0	1
102.5	1
105.0	1
107.5	0
110.0	1
112.5	1
115.0	1
117.5	1
120.0	1
122.5	1
125.0	1
127.5	1
130.0	1
132.5	1
135.0	1
137.5	1
140.0	1
142.5	1
145.0	1
147.5	1
150.0	1
152.5	1
155.0	1
157.5	1
160.0	1
162.5	1
165.0	1
167.5	1
170.0	1
172.5	1
175.0	1
177.5	1
180.0	1

Cone
Angles

Candela
Values





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IES File Headers

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IESNA:LM-63
[ISSUEDATE]      01 October 2021
[TESTLAB]        Spectra Lux
[TEST]           S2110015-R1
[MANUFAC]        ANDlight
[LUMCAT]          PIP-125-P-30
[LUMINAIRE]       PIPELINE
[LAMP]           Clusters of Epistar (P/N 2016) LEDs c/w Sorensen Driver DCS60-18E @ 24.00V
[_BURNING]        Vertical Base Up (716 Luminaire Lumens)
[_REFLECTOR]      None
[_LENS]           (1) Cylindrical Acrylic Diffuser
[_HOUSING]        Aluminum Body
[_NOMINAL COLOR] 3000 K
[_DRIVE CURRENT] 667.5 mA
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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	280	280	280	280	280	280	280	280
	2.5	281	278	276	274	273	274	276	281
	5.0	280	275	270	266	266	266	270	280
	7.5	279	271	264	258	257	258	264	279
	10.0	276	267	257	249	247	249	257	276
	12.5	274	261	249	239	236	239	249	274
	15.0	270	256	239	227	223	227	239	270
	17.5	266	249	229	214	210	214	229	266
	20.0	262	242	219	201	196	201	242	262
	22.5	256	234	207	188	182	188	234	256
	25.0	250	225	195	174	168	174	225	250
	27.5	243	216	182	160	154	160	216	243
	30.0	236	206	170	147	142	147	206	236
	32.5	227	196	157	135	130	135	196	227
	35.0	219	184	144	124	119	124	184	219
	37.5	209	173	132	114	109	114	173	209
	40.0	199	161	121	105	101	105	161	199
	42.5	188	148	111	96	93	96	148	188
	45.0	176	136	101	89	87	89	136	176
	47.5	164	124	92	83	81	83	124	164
A n g l e s	50.0	152	112	85	77	76	77	112	152
	52.5	140	101	78	73	71	73	101	140
	55.0	127	91	72	68	68	68	91	127
	57.5	115	81	67	65	65	65	81	115
	60.0	103	73	63	62	62	62	73	103
	62.5	90	65	59	59	59	59	65	90
	65.0	79	58	56	57	57	57	58	79
	67.5	68	52	53	55	55	55	52	68
	70.0	57	47	51	52	53	52	47	57
	72.5	47	43	49	51	51	49	43	47
	75.0	39	39	47	49	49	47	39	39
	77.5	30	36	45	48	48	45	36	30
	80.0	23	33	44	47	47	44	33	23
	82.5	16	31	43	46	46	43	31	16
	85.0	10	30	42	44	45	42	30	10
	87.5	5	28	40	43	43	40	28	5
	90.0	4	27	39	42	43	39	27	4



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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	3	26	38	41	42	41	38	26	3
	95.0	3	25	37	40	40	40	37	25	3
	97.5	2	24	37	39	40	39	37	24	2
	100.0	1	23	36	38	39	38	36	23	1
	102.5	1	22	34	37	38	37	34	22	1
	105.0	1	22	34	36	37	36	34	22	1
	107.5	0	21	33	35	36	35	33	21	0
	110.0	1	20	31	34	35	34	31	20	1
	112.5	1	18	30	33	34	33	30	18	1
	115.0	1	18	29	32	33	32	29	18	1
	117.5	1	16	28	31	32	31	28	16	1
	120.0	1	15	27	30	31	30	27	15	1
	122.5	1	14	25	29	30	29	25	14	1
	125.0	1	13	24	28	29	28	24	13	1
	127.5	1	12	23	27	28	27	23	12	1
	130.0	1	11	21	25	26	25	21	11	1
	132.5	1	9	20	24	25	24	20	9	1
	135.0	1	8	18	23	24	23	18	8	1
	137.5	1	7	17	21	23	21	17	7	1
	A n g l e s	140.0	1	6	16	20	21	20	16	6
142.5		1	5	14	19	20	19	14	5	1
145.0		1	4	13	17	18	17	13	4	1
147.5		1	3	11	16	17	16	11	3	1
150.0		1	2	10	14	16	14	10	2	1
152.5		1	1	9	13	14	13	9	1	1
155.0		1	1	7	11	12	11	7	1	1
157.5		1	1	5	9	10	9	5	1	1
160.0		1	1	3	7	8	7	3	1	1
162.5		1	1	2	5	6	5	2	1	1
165.0		1	1	1	3	4	3	1	1	1
167.5		1	1	1	1	2	1	1	1	1
170.0		1	1	1	1	1	1	1	1	1
172.5		1	1	1	1	1	1	1	1	1
175.0		1	1	1	1	1	1	1	1	1
177.5		1	1	1	1	1	1	1	1	1
180.0		1	1	1	1	1	1	1	1	1