

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P242168

Luminaire Tested: **S121DR-S685D930-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242168
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-13)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-S685D930-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2227.8 lumens
Efficiency: N/A
Efficacy: 84.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

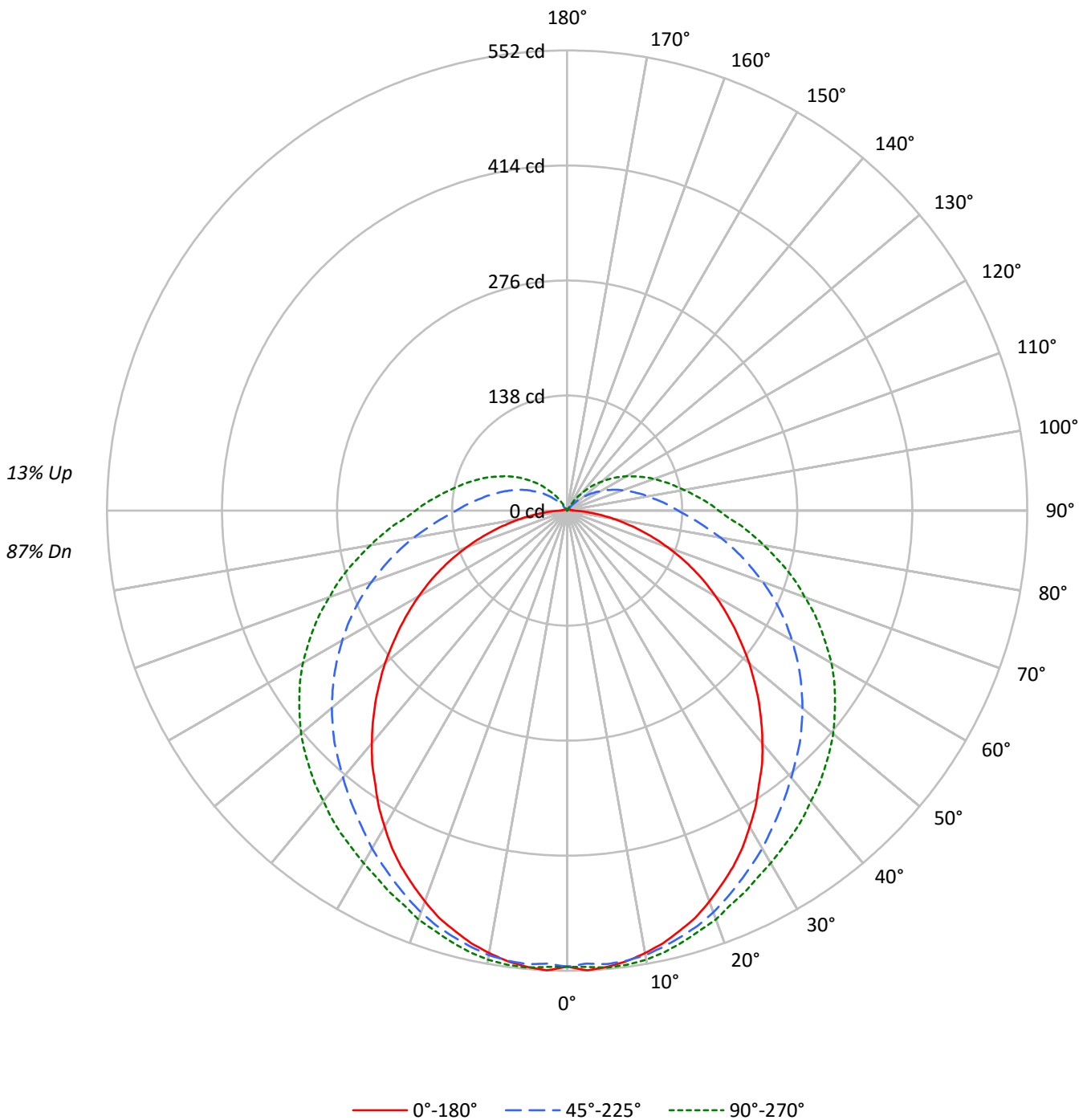
Input Watts (W): 26.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10	0		
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	116	116	116	116	112	112	112	112	104	104	104		97	97	97		90	90	90	87
1	103	97	92	87	99	94	89	84	87	83	79		81	77	75		75	72	70	67
2	93	83	75	69	89	80	73	67	74	68	63		69	64	60		64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52		60	54	49		56	51	47	44
4	76	63	54	47	73	61	53	46	57	50	44		53	47	42		49	44	40	37
5	70	56	47	40	67	54	46	39	51	43	37		47	41	36		44	39	34	32
6	65	51	41	34	62	49	40	34	46	38	32		43	36	31		40	34	30	27
7	60	46	37	30	57	44	36	30	41	34	28		39	32	27		36	31	26	24
8	55	42	33	27	53	40	32	26	38	31	25		36	29	24		33	28	23	21
9	52	38	30	24	50	37	29	23	35	28	23		33	26	22		31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	20		30	24	20		29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16210	16210	16210
5°	16313	15379	15187
10°	16153	14629	14230
15°	15914	13842	13272
20°	15612	13100	12431
25°	15252	12341	11665
30°	14795	11673	11043
35°	14293	11038	10543
40°	13845	10503	10078
45°	13344	10059	9695
50°	12827	9612	9325
55°	12259	9172	8927
60°	11741	8725	8543
65°	11199	8285	8103
70°	10470	7807	7634
75°	9591	7325	7221
80°	8562	6850	6770
85°	7341	6402	6382



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.2	2.3
10°-20°	149.8	6.7
20°-30°	226.5	10.2
30°-40°	277.0	12.4
40°-50°	300.7	13.5
50°-60°	296.6	13.3
60°-70°	266.2	12.0
70°-80°	214.3	9.6
80°-90°	154.8	6.9
90°-100°	110.6	5.0
100°-110°	79.2	3.6
110°-120°	52.8	2.4
120°-130°	30.3	1.4
130°-140°	13.7	0.6
140°-150°	3.0	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	428.5	19.2
0°-40°	705.5	31.7
0°-60°	1302.8	58.5
0°-90°	1938.1	87.0
90°-120°	242.6	10.9
90°-150°	289.7	13.0
90°-180°	290.0	13.0
0°-180°	2227.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	547	547	547	547	547	
5°	550	549	546	551	550	52
15°	522	529	529	536	536	147
25°	471	484	491	502	505	217
35°	401	423	443	465	473	251
45°	325	355	395	426	437	251
55°	245	287	341	380	392	219
65°	167	220	281	323	336	165
75°	90	152	218	259	272	96
85°	27	91	157	197	210	28
90°	7	68	133	170	182	5
95°	6	55	115	152	161	4
105°	3	33	84	117	126	4
115°	2	16	59	87	96	2
125°	2	2	36	60	68	1
135°	1	1	14	34	41	1
145°	0	0	0	10	14	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	547.1	547.1	547.1	547.1	547.1
2.5°	552.0	549.5	543.8	549.5	547.9
5°	549.5	548.7	546.2	551.1	550.3
7.5°	545.4	547.1	544.6	551.1	549.5
10°	538.9	543.0	541.4	547.9	547.1
12.5°	531.6	536.5	535.7	543.0	542.2
15°	521.8	529.1	529.1	536.5	535.7
17.5°	512.0	519.3	521.8	529.9	528.3
20°	499.0	508.7	512.8	520.2	521.8
22.5°	485.1	497.3	502.2	511.2	512.0
25°	471.2	483.5	490.8	502.2	504.7
27.5°	455.8	469.6	479.4	492.4	495.7
30°	437.8	454.9	468.0	482.7	488.4
32.5°	420.7	439.4	454.9	474.5	480.2
35°	401.1	423.1	442.7	464.7	472.9
37.5°	384.0	406.8	430.5	455.8	464.7
40°	364.4	388.9	418.2	446.0	454.9
42.5°	344.9	372.6	406.0	437.0	446.8
45°	325.3	354.7	394.6	426.4	437.0
47.5°	304.9	338.3	381.6	415.8	427.2
50°	285.4	321.2	368.5	404.4	416.6
52.5°	264.2	304.1	354.7	392.2	404.4
55°	244.6	287.0	340.8	379.9	392.2
57.5°	225.0	269.9	326.1	366.1	379.9
60°	205.5	252.7	311.4	352.2	366.1
62.5°	186.7	236.4	296.8	338.3	350.6
65°	167.1	220.1	281.3	322.9	335.9
67.5°	147.6	203.0	265.8	307.4	320.4
70°	128.0	185.1	249.5	291.9	303.3
72.5°	109.2	168.8	233.2	276.4	288.6
75°	90.5	151.6	217.7	259.3	272.3
77.5°	72.6	135.3	202.2	243.8	255.2
80°	56.3	119.0	186.7	228.3	239.7
82.5°	40.8	105.2	171.2	212.0	224.2
85°	26.9	91.3	157.4	197.3	209.5
87.5°	16.3	79.1	144.3	183.4	193.2
90°	7.3	68.5	132.9	170.4	181.8
92.5°	6.5	61.1	123.9	161.4	172.0
95°	5.7	54.6	115.0	151.6	161.4
97.5°	4.9	48.1	106.0	141.9	151.6
100°	4.1	42.4	98.7	132.9	142.7
102.5°	4.1	37.5	91.3	123.9	133.7
105°	3.3	32.6	84.0	116.6	126.4
107.5°	3.3	28.5	77.5	109.2	118.2
110°	3.3	24.5	70.9	101.9	110.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.4	20.4	65.2	94.6	103.5
115°	2.4	16.3	58.7	87.2	96.2
117.5°	2.4	12.2	53.0	80.7	88.9
120°	1.6	9.0	46.5	74.2	82.3
122.5°	1.6	5.7	41.6	66.9	75.0
125°	1.6	2.4	35.9	60.3	68.5
127.5°	1.6	0.8	30.2	53.8	61.1
130°	0.8	0.8	25.3	47.3	53.8
132.5°	0.8	0.8	19.6	40.8	48.1
135°	0.8	0.8	13.9	34.2	40.8
137.5°	0.8	0.0	9.0	27.7	33.4
140°	0.8	0.0	4.9	22.0	26.9
142.5°	0.8	0.0	0.8	15.5	21.2
145°	0.0	0.0	0.0	9.8	13.9
147.5°	0.0	0.0	0.0	4.1	8.2
150°	0.0	0.0	0.0	0.0	2.4
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)