

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: P243033

Luminaire Tested: **S121DR-H685D935-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243033
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-52)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-H685D935-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2225.3 lumens
Efficiency: N/A
Efficacy: 94.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.43
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

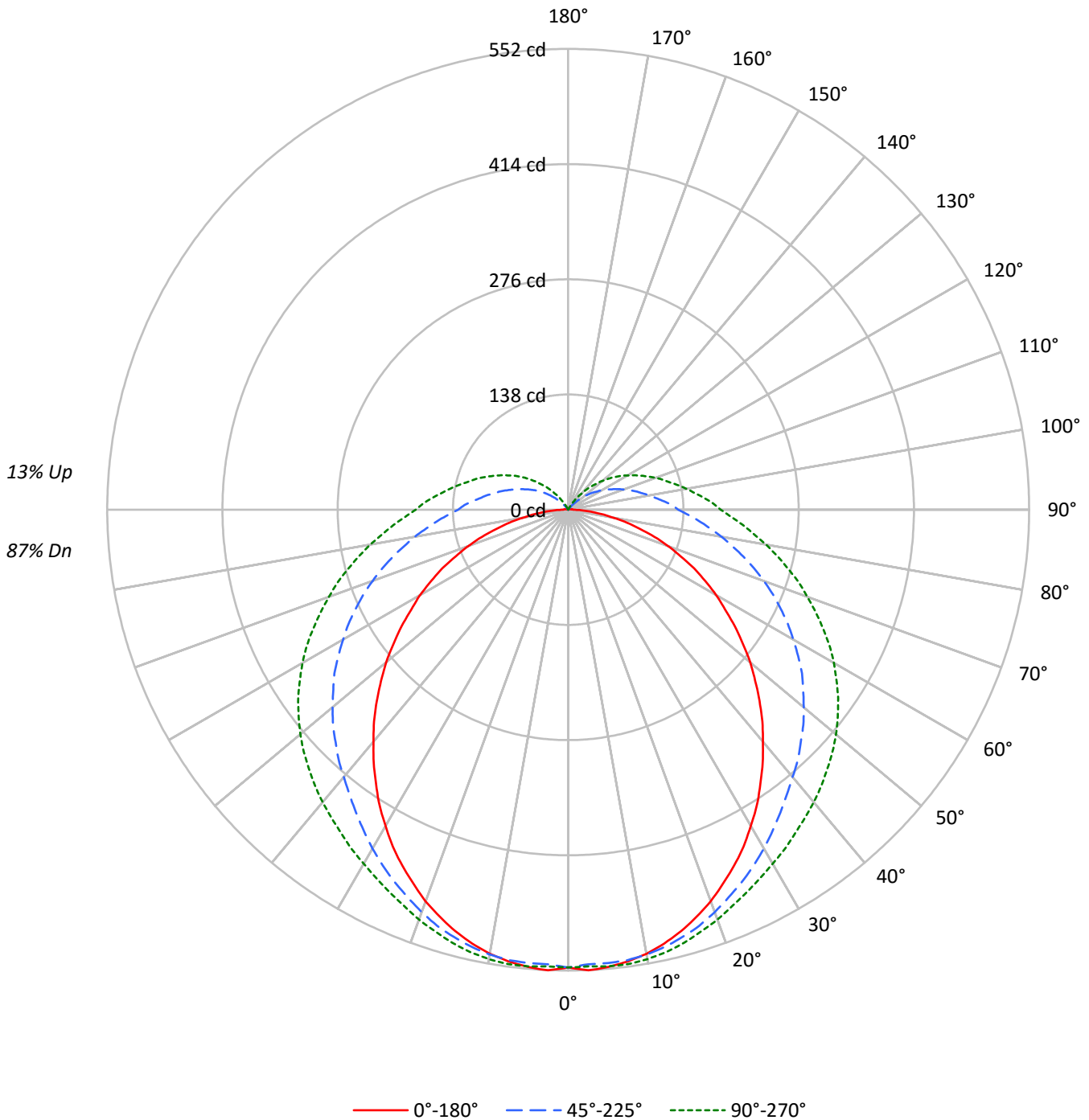
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	78	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	69	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	50	56	51	47	44
4	76	64	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	29	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	24	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	21	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16246	16246	16246
5°	16325	15346	15153
10°	16191	14618	14220
15°	15936	13861	13304
20°	15618	13103	12448
25°	15223	12371	11688
30°	14778	11691	11070
35°	14293	11043	10557
40°	13776	10498	10134
45°	13291	10042	9737
50°	12791	9604	9374
55°	12209	9197	8984
60°	11712	8717	8573
65°	11152	8264	8125
70°	10388	7798	7669
75°	9453	7305	7226
80°	8319	6843	6790
85°	7232	6411	6391



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.2	2.3
10°-20°	149.8	6.7
20°-30°	226.6	10.2
30°-40°	277.0	12.4
40°-50°	300.7	13.5
50°-60°	296.8	13.3
60°-70°	265.8	11.9
70°-80°	213.9	9.6
80°-90°	154.6	6.9
90°-100°	110.7	5.0
100°-110°	79.0	3.6
110°-120°	52.3	2.4
120°-130°	29.7	1.3
130°-140°	13.3	0.6
140°-150°	2.8	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	428.7	19.3
0°-40°	705.7	31.7
0°-60°	1303.2	58.6
0°-90°	1937.5	87.1
90°-120°	242.0	10.9
90°-150°	287.9	12.9
90°-180°	288.0	12.9
0°-180°	2225.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	548	548	548	548	548	
5°	550	548	545	551	549	52
15°	522	528	530	537	537	147
25°	470	482	492	503	506	217
35°	401	422	443	466	474	251
45°	324	354	394	428	439	250
55°	244	285	342	381	395	218
65°	166	218	281	324	337	164
75°	89	150	217	260	272	95
85°	26	90	158	198	210	28
90°	6	68	132	171	182	5
95°	5	54	115	152	163	3
105°	2	32	84	117	126	3
115°	2	15	58	88	96	1
125°	1	2	35	60	68	0
135°	0	0	14	34	40	0
145°	0	0	0	9	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°	548.3	548.3	548.3	548.3	548.3
2.5°	552.3	549.1	545.0	549.1	547.5
5°	549.9	548.3	545.0	550.7	549.1
7.5°	545.8	545.8	544.2	549.9	549.1
10°	540.2	541.8	541.0	547.5	546.7
12.5°	532.2	535.4	536.2	543.4	542.6
15°	522.5	528.2	529.8	537.0	537.0
17.5°	511.3	518.5	522.5	529.8	529.8
20°	499.2	507.3	512.9	521.7	522.5
22.5°	484.8	496.0	502.4	512.9	513.7
25°	470.3	482.3	492.0	503.2	505.7
27.5°	455.0	468.7	480.7	493.6	497.6
30°	437.3	452.6	468.7	483.9	489.6
32.5°	420.4	438.1	455.8	475.1	482.3
35°	401.1	422.0	442.9	466.3	473.5
37.5°	382.7	405.2	430.1	456.6	465.5
40°	362.6	388.3	418.0	447.8	457.4
42.5°	344.1	370.6	406.8	437.3	448.6
45°	324.0	354.5	393.9	427.7	438.9
47.5°	303.9	336.8	381.9	416.4	429.3
50°	284.6	319.1	368.2	406.0	418.8
52.5°	263.7	303.1	354.5	393.1	406.8
55°	243.6	284.6	341.7	381.0	394.7
57.5°	222.7	269.3	326.4	368.2	381.0
60°	205.0	251.6	311.1	353.7	367.4
62.5°	184.9	234.7	296.6	338.4	352.9
65°	166.4	217.9	280.6	324.0	336.8
67.5°	145.5	201.0	265.3	307.9	320.8
70°	127.0	184.1	249.2	291.8	304.7
72.5°	108.5	168.0	233.1	276.5	289.4
75°	89.2	150.3	217.1	259.7	272.5
77.5°	72.4	134.3	201.0	243.6	256.4
80°	54.7	118.2	186.5	228.3	240.4
82.5°	40.2	103.7	171.2	213.0	224.3
85°	26.5	90.0	157.6	197.8	209.8
87.5°	15.3	78.0	143.9	184.1	195.3
90°	6.4	67.5	131.8	171.2	182.5
92.5°	4.8	61.1	124.6	162.4	173.6
95°	4.8	53.9	115.0	151.9	163.2
97.5°	4.0	47.4	106.1	142.3	152.7
100°	3.2	41.8	98.9	133.4	143.9
102.5°	3.2	37.0	90.8	124.6	135.1
105°	2.4	32.2	84.4	116.6	126.2
107.5°	2.4	27.3	77.2	109.3	119.0
110°	1.6	23.3	70.7	102.1	111.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	19.3	64.3	94.9	103.7
115°	1.6	15.3	57.9	87.6	96.5
117.5°	0.8	11.3	52.3	80.4	89.2
120°	0.8	8.0	46.6	73.2	82.0
122.5°	0.8	4.0	40.2	66.7	75.6
125°	0.8	1.6	35.4	60.3	68.3
127.5°	0.0	0.0	29.7	53.1	61.1
130°	0.0	0.0	24.1	46.6	53.9
132.5°	0.0	0.0	19.3	40.2	46.6
135°	0.0	0.0	13.7	33.8	40.2
137.5°	0.0	0.0	8.8	27.3	33.8
140°	0.0	0.0	4.0	20.9	26.5
142.5°	0.0	0.0	0.8	15.3	20.1
145°	0.0	0.0	0.0	8.8	14.5
147.5°	0.0	0.0	0.0	3.2	8.0
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)