

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: P243016

Luminaire Tested: **S121DR-H1025D830-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243016  
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-H1025D830-X4F0-XX-UDD-D-W  
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3670.1 lumens  
Efficiency: N/A  
Efficacy: 97.3 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

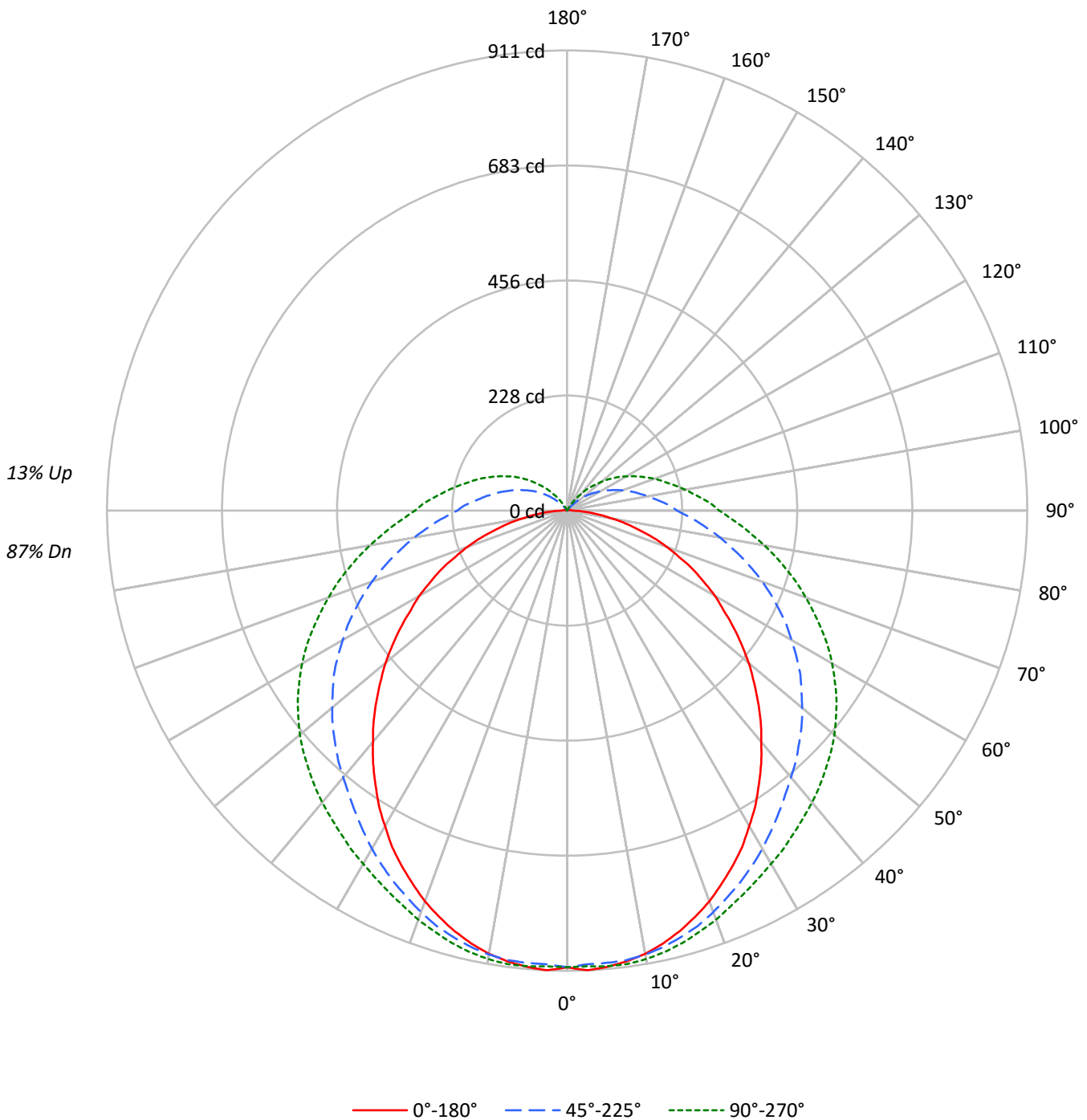
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	26791	26791	26791
5°	26920	25310	24989
10°	26703	24110	23448
15°	26284	22858	21940
20°	25758	21609	20531
25°	25105	20403	19274
30°	24372	19279	18256
35°	23576	18214	17410
40°	22716	17313	16714
45°	21917	16560	16059
50°	21092	15839	15461
55°	20133	15166	14818
60°	19316	14377	14138
65°	18390	13628	13401
70°	17137	12860	12647
75°	15600	12046	11917
80°	13718	11286	11197
85°	11952	10572	10540



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.1	2.3
10°-20°	247.1	6.7
20°-30°	373.8	10.2
30°-40°	456.8	12.4
40°-50°	496.0	13.5
50°-60°	489.4	13.3
60°-70°	438.4	11.9
70°-80°	352.7	9.6
80°-90°	254.9	6.9
90°-100°	182.6	5.0
100°-110°	130.3	3.6
110°-120°	86.3	2.4
120°-130°	49.1	1.3
130°-140°	21.9	0.6
140°-150°	4.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	707.0	19.3
0°-40°	1163.8	31.7
0°-60°	2149.2	58.6
0°-90°	3195.3	87.1
90°-120°	399.1	10.9
90°-150°	474.8	12.9
90°-180°	475.0	12.9
0°-180°	3670.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	904	904	904	904	904	
5°	907	904	899	908	906	86
15°	862	871	874	886	886	243
25°	776	796	811	830	834	357
35°	662	696	730	769	781	414
45°	534	585	650	705	724	412
55°	402	469	564	628	651	359
65°	274	359	463	534	556	270
75°	147	248	358	428	449	157
85°	44	148	260	326	346	46
90°	11	111	217	282	301	7
95°	8	89	190	251	269	6
105°	4	53	139	192	208	5
115°	3	25	96	144	159	2
125°	1	3	58	99	113	1
135°	0	0	22	56	66	0
145°	0	0	0	15	24	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°	904.2	904.2	904.2	904.2	904.2
2.5°	910.8	905.5	898.9	905.5	902.9
5°	906.8	904.2	898.9	908.2	905.5
7.5°	900.2	900.2	897.6	906.8	905.5
10°	890.9	893.6	892.3	902.9	901.5
12.5°	877.7	883.0	884.3	896.2	894.9
15°	861.8	871.0	873.7	885.6	885.6
17.5°	843.2	855.1	861.8	873.7	873.7
20°	823.3	836.6	845.9	860.4	861.8
22.5°	799.5	818.0	828.6	845.9	847.2
25°	775.6	795.5	811.4	829.9	833.9
27.5°	750.4	772.9	792.8	814.0	820.7
30°	721.2	746.4	772.9	798.1	807.4
32.5°	693.4	722.6	751.7	783.5	795.5
35°	661.6	696.0	730.5	769.0	780.9
37.5°	631.1	668.2	709.3	753.1	767.6
40°	597.9	640.4	689.4	738.5	754.4
42.5°	567.4	611.2	670.9	721.2	739.8
45°	534.3	584.7	649.6	705.3	723.9
47.5°	501.2	555.5	629.8	686.8	708.0
50°	469.3	526.3	607.2	669.5	690.7
52.5°	434.9	499.8	584.7	648.3	670.9
55°	401.7	469.3	563.5	628.4	651.0
57.5°	367.2	444.1	538.3	607.2	628.4
60°	338.1	415.0	513.1	583.4	605.9
62.5°	304.9	387.1	489.2	558.2	582.0
65°	274.4	359.3	462.7	534.3	555.5
67.5°	240.0	331.4	437.5	507.8	529.0
70°	209.5	303.6	411.0	481.3	502.5
72.5°	179.0	277.1	384.5	456.1	477.3
75°	147.2	247.9	358.0	428.2	449.4
77.5°	119.3	221.4	331.4	401.7	422.9
80°	90.2	194.9	307.6	376.5	396.4
82.5°	66.3	171.0	282.4	351.3	369.9
85°	43.8	148.5	259.9	326.1	346.0
87.5°	25.2	128.6	237.3	303.6	322.2
90°	10.6	111.4	217.4	282.4	301.0
92.5°	8.0	100.8	205.5	267.8	286.4
95°	8.0	88.8	189.6	250.6	269.1
97.5°	6.6	78.2	175.0	234.7	251.9
100°	5.3	68.9	163.1	220.1	237.3
102.5°	5.3	61.0	149.8	205.5	222.7
105°	4.0	53.0	139.2	192.2	208.2
107.5°	4.0	45.1	127.3	180.3	196.2
110°	2.7	38.4	116.7	168.4	184.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.7	31.8	106.1	156.4	171.0
115°	2.7	25.2	95.5	144.5	159.1
117.5°	1.3	18.6	86.2	132.6	147.2
120°	1.3	13.3	76.9	120.6	135.2
122.5°	1.3	6.6	66.3	110.0	124.6
125°	1.3	2.7	58.3	99.4	112.7
127.5°	0.0	0.0	49.1	87.5	100.8
130°	0.0	0.0	39.8	76.9	88.8
132.5°	0.0	0.0	31.8	66.3	76.9
135°	0.0	0.0	22.5	55.7	66.3
137.5°	0.0	0.0	14.6	45.1	55.7
140°	0.0	0.0	6.6	34.5	43.8
142.5°	0.0	0.0	1.3	25.2	33.1
145°	0.0	0.0	0.0	14.6	23.9
147.5°	0.0	0.0	0.0	5.3	13.3
150°	0.0	0.0	0.0	0.0	4.0
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)