

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: P243010

Luminaire Tested: **S121DR-H880D927-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243010  
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-H880D927-X4F0-XX-UDD-D-W  
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2640.5 lumens  
Efficiency: N/A  
Efficacy: 83.8 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

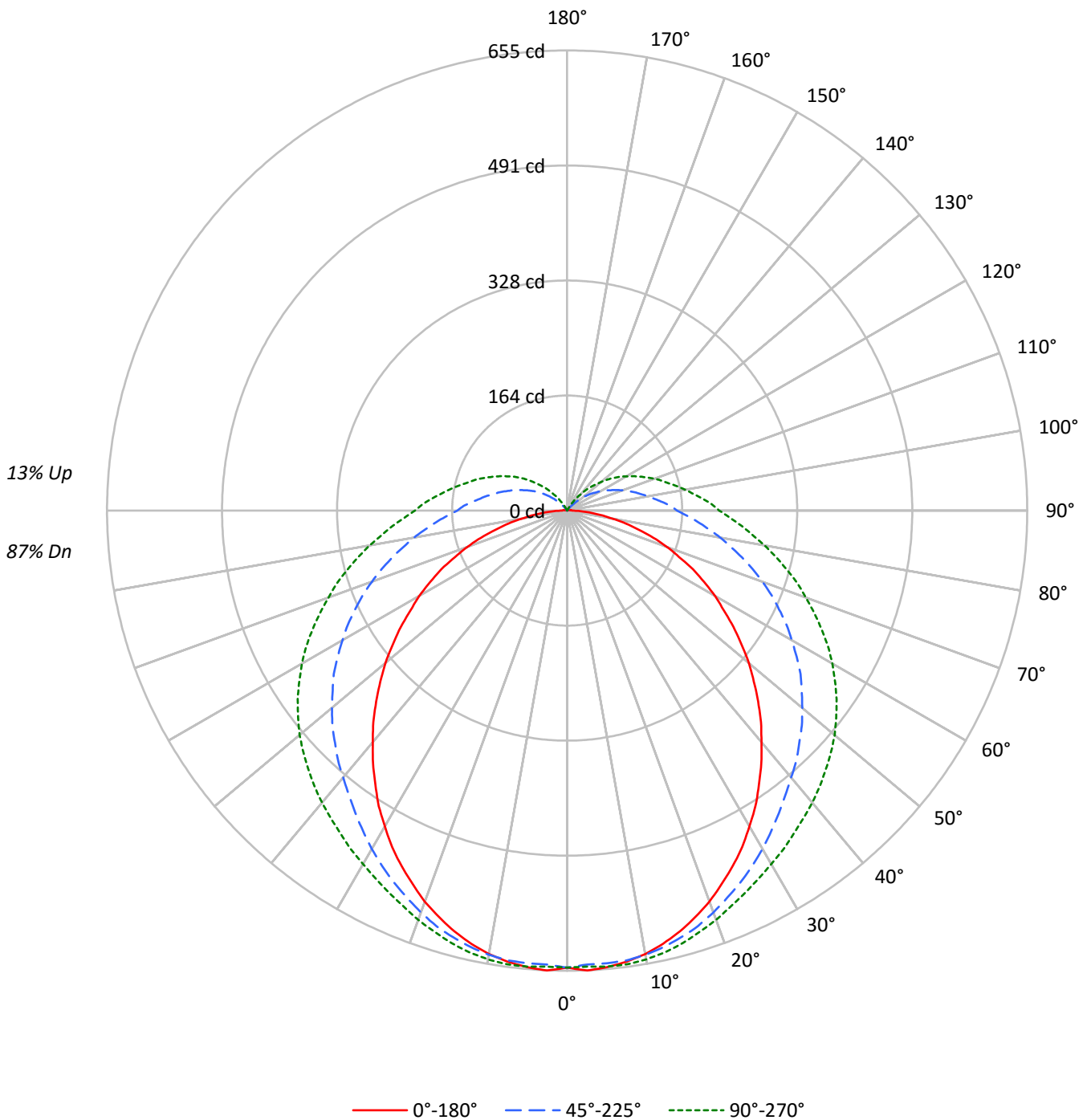
Input Watts (W): 31.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	19274	19274	19274
5°	19368	18209	17979
10°	19213	17347	16870
15°	18909	16446	15786
20°	18534	15547	14771
25°	18061	14680	13868
30°	17536	13871	13134
35°	16962	13105	12525
40°	16345	12456	12023
45°	15768	11915	11554
50°	15178	11396	11125
55°	14484	10911	10660
60°	13894	10342	10172
65°	13236	9805	9643
70°	12327	9253	9098
75°	11223	8664	8576
80°	9870	8119	8056
85°	8596	7606	7585



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.9	2.3
10°-20°	177.8	6.7
20°-30°	268.9	10.2
30°-40°	328.7	12.4
40°-50°	356.8	13.5
50°-60°	352.1	13.3
60°-70°	315.4	11.9
70°-80°	253.8	9.6
80°-90°	183.4	6.9
90°-100°	131.3	5.0
100°-110°	93.8	3.6
110°-120°	62.1	2.4
120°-130°	35.3	1.3
130°-140°	15.8	0.6
140°-150°	3.4	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	508.6	19.3
0°-40°	837.3	31.7
0°-60°	1546.3	58.6
0°-90°	2298.9	87.1
90°-120°	287.2	10.9
90°-150°	341.6	12.9
90°-180°	342.0	13.0
0°-180°	2640.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	650	650	650	650	650	
5°	652	650	647	653	652	62
15°	620	627	629	637	637	175
25°	558	572	584	597	600	257
35°	476	501	526	553	562	298
45°	384	421	467	508	521	297
55°	289	338	405	452	468	259
65°	198	258	333	384	400	195
75°	106	178	258	308	323	113
85°	32	107	187	235	249	33
90°	8	80	156	203	216	5
95°	6	64	136	180	194	4
105°	3	38	100	138	150	3
115°	2	18	69	104	114	2
125°	1	2	42	72	81	1
135°	0	0	16	40	48	0
145°	0	0	0	10	17	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°	650.5	650.5	650.5	650.5	650.5
2.5°	655.3	651.5	646.7	651.5	649.6
5°	652.4	650.5	646.7	653.4	651.5
7.5°	647.7	647.7	645.8	652.4	651.5
10°	641.0	642.9	642.0	649.6	648.6
12.5°	631.5	635.3	636.2	644.8	643.9
15°	620.0	626.7	628.6	637.2	637.2
17.5°	606.7	615.2	620.0	628.6	628.6
20°	592.4	601.9	608.6	619.1	620.0
22.5°	575.2	588.5	596.2	608.6	609.5
25°	558.0	572.3	583.8	597.1	600.0
27.5°	539.9	556.1	570.4	585.7	590.4
30°	518.9	537.0	556.1	574.2	580.9
32.5°	498.9	519.9	540.8	563.7	572.3
35°	476.0	500.8	525.6	553.2	561.8
37.5°	454.0	480.7	510.3	541.8	552.3
40°	430.2	460.7	496.0	531.3	542.7
42.5°	408.3	439.7	482.7	518.9	532.3
45°	384.4	420.7	467.4	507.5	520.8
47.5°	360.6	399.7	453.1	494.1	509.4
50°	337.7	378.7	436.9	481.7	497.0
52.5°	312.9	359.6	420.7	466.4	482.7
55°	289.0	337.7	405.4	452.1	468.3
57.5°	264.2	319.5	387.3	436.9	452.1
60°	243.2	298.6	369.1	419.7	435.9
62.5°	219.4	278.5	352.0	401.6	418.7
65°	197.5	258.5	332.9	384.4	399.7
67.5°	172.6	238.5	314.8	365.3	380.6
70°	150.7	218.4	295.7	346.3	361.5
72.5°	128.8	199.4	276.6	328.1	343.4
75°	105.9	178.4	257.5	308.1	323.4
77.5°	85.8	159.3	238.5	289.0	304.3
80°	64.9	140.2	221.3	270.9	285.2
82.5°	47.7	123.0	203.2	252.8	266.1
85°	31.5	106.8	187.0	234.7	249.0
87.5°	18.1	92.5	170.7	218.4	231.8
90°	7.6	80.1	156.4	203.2	216.5
92.5°	5.7	72.5	147.8	192.7	206.0
95°	5.7	63.9	136.4	180.3	193.6
97.5°	4.8	56.3	125.9	168.8	181.2
100°	3.8	49.6	117.3	158.3	170.7
102.5°	3.8	43.9	107.8	147.8	160.2
105°	2.9	38.2	100.2	138.3	149.8
107.5°	2.9	32.4	91.6	129.7	141.2
110°	1.9	27.7	83.9	121.1	132.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	22.9	76.3	112.6	123.0
115°	1.9	18.1	68.7	104.0	114.5
117.5°	1.0	13.4	62.0	95.4	105.9
120°	1.0	9.5	55.3	86.8	97.3
122.5°	1.0	4.8	47.7	79.2	89.7
125°	1.0	1.9	42.0	71.5	81.1
127.5°	0.0	0.0	35.3	63.0	72.5
130°	0.0	0.0	28.6	55.3	63.9
132.5°	0.0	0.0	22.9	47.7	55.3
135°	0.0	0.0	16.2	40.1	47.7
137.5°	0.0	0.0	10.5	32.4	40.1
140°	0.0	0.0	4.8	24.8	31.5
142.5°	0.0	0.0	1.0	18.1	23.8
145°	0.0	0.0	0.0	10.5	17.2
147.5°	0.0	0.0	0.0	3.8	9.5
150°	0.0	0.0	0.0	0.0	2.9
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)