

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: P242156

Luminaire Tested: **S121DR-S1025D830-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242156  
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-S1025D830-X4F0-XX-UDD-D-W  
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3817.1 lumens  
Efficiency: N/A  
Efficacy: 92.9 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

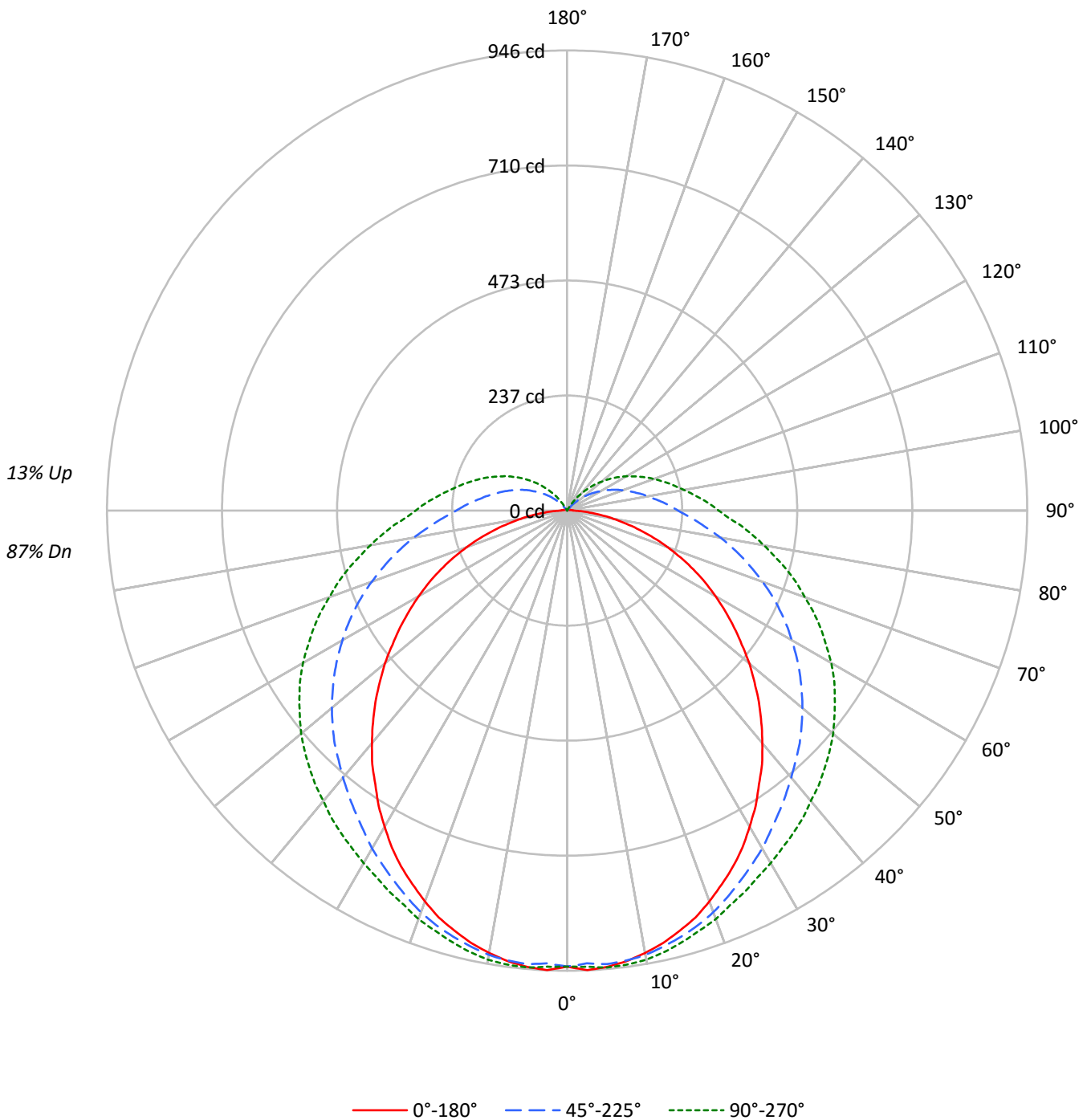
Input Watts (W): 41.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	27772	27772	27772
5°	27950	26352	26021
10°	27677	25064	24379
15°	27266	23719	22738
20°	26747	22447	21299
25°	26134	21144	19986
30°	25349	19999	18920
35°	24492	18912	18064
40°	23723	17997	17270
45°	22865	17236	16609
50°	21973	16470	15978
55°	21005	15715	15294
60°	20110	14951	14636
65°	19194	14193	13884
70°	17938	13377	13080
75°	16437	12550	12373
80°	14661	11737	11601
85°	12580	10966	10936



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.5	2.3
10°-20°	256.7	6.7
20°-30°	388.1	10.2
30°-40°	474.5	12.4
40°-50°	515.2	13.5
50°-60°	508.3	13.3
60°-70°	456.2	12.0
70°-80°	367.1	9.6
80°-90°	265.2	6.9
90°-100°	189.5	5.0
100°-110°	135.7	3.6
110°-120°	90.5	2.4
120°-130°	52.0	1.4
130°-140°	23.5	0.6
140°-150°	5.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	734.3	19.2
0°-40°	1208.8	31.7
0°-60°	2232.2	58.5
0°-90°	3320.7	87.0
90°-120°	415.8	10.9
90°-150°	496.4	13.0
90°-180°	496.0	13.0
0°-180°	3817.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	937	937	937	937	937	
5°	942	940	936	944	943	89
15°	894	907	907	919	918	252
25°	807	828	841	860	865	371
35°	687	725	758	796	810	431
45°	557	608	676	731	749	430
55°	419	492	584	651	672	375
65°	286	377	482	553	576	283
75°	155	260	373	444	467	165
85°	46	156	270	338	359	48
90°	13	117	228	292	312	9
95°	10	94	197	260	277	7
105°	6	56	144	200	216	6
115°	4	28	101	150	165	4
125°	3	4	62	103	117	2
135°	1	1	24	59	70	1
145°	0	0	0	17	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°	937.3	937.3	937.3	937.3	937.3
2.5°	945.7	941.5	931.7	941.5	938.7
5°	941.5	940.1	935.9	944.3	942.9
7.5°	934.5	937.3	933.1	944.3	941.5
10°	923.4	930.3	927.6	938.7	937.3
12.5°	910.8	919.2	917.8	930.3	929.0
15°	894.0	906.6	906.6	919.2	917.8
17.5°	877.3	889.8	894.0	908.0	905.2
20°	854.9	871.7	878.7	891.2	894.0
22.5°	831.2	852.1	860.5	875.9	877.3
25°	807.4	828.4	840.9	860.5	864.7
27.5°	780.9	804.6	821.4	843.7	849.3
30°	750.1	779.5	801.8	827.0	836.8
32.5°	720.8	752.9	779.5	813.0	822.8
35°	687.3	725.0	758.5	796.2	810.2
37.5°	657.9	697.1	737.6	780.9	796.2
40°	624.4	666.3	716.6	764.1	779.5
42.5°	590.9	638.4	695.7	748.7	765.5
45°	557.4	607.7	676.1	730.6	748.7
47.5°	522.4	579.7	653.8	712.4	732.0
50°	488.9	550.4	631.4	692.9	713.8
52.5°	452.6	521.1	607.7	671.9	692.9
55°	419.1	491.7	583.9	651.0	671.9
57.5°	385.5	462.4	558.8	627.2	651.0
60°	352.0	433.0	533.6	603.5	627.2
62.5°	319.9	405.1	508.5	579.7	600.7
65°	286.4	377.2	481.9	553.2	575.5
67.5°	252.8	347.8	455.4	526.6	549.0
70°	219.3	317.1	427.5	500.1	519.7
72.5°	187.2	289.2	399.5	473.6	494.5
75°	155.1	259.8	373.0	444.2	466.6
77.5°	124.3	231.9	346.4	417.7	437.2
80°	96.4	204.0	319.9	391.1	410.7
82.5°	69.8	180.2	293.4	363.2	384.2
85°	46.1	156.5	269.6	338.1	359.0
87.5°	27.9	135.5	247.3	314.3	331.1
90°	12.6	117.3	227.7	292.0	311.5
92.5°	11.2	104.8	212.3	276.6	294.7
95°	9.8	93.6	197.0	259.8	276.6
97.5°	8.4	82.4	181.6	243.1	259.8
100°	7.0	72.6	169.0	227.7	244.5
102.5°	7.0	64.3	156.5	212.3	229.1
105°	5.6	55.9	143.9	199.8	216.5
107.5°	5.6	48.9	132.7	187.2	202.6
110°	5.6	41.9	121.5	174.6	190.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	4.2	34.9	111.8	162.0	177.4
115°	4.2	27.9	100.6	149.5	164.8
117.5°	4.2	21.0	90.8	138.3	152.3
120°	2.8	15.4	79.6	127.1	141.1
122.5°	2.8	9.8	71.2	114.5	128.5
125°	2.8	4.2	61.5	103.4	117.3
127.5°	2.8	1.4	51.7	92.2	104.8
130°	1.4	1.4	43.3	81.0	92.2
132.5°	1.4	1.4	33.5	69.8	82.4
135°	1.4	1.4	23.7	58.7	69.8
137.5°	1.4	0.0	15.4	47.5	57.3
140°	1.4	0.0	8.4	37.7	46.1
142.5°	1.4	0.0	1.4	26.5	36.3
145°	0.0	0.0	0.0	16.8	23.7
147.5°	0.0	0.0	0.0	7.0	14.0
150°	0.0	0.0	0.0	0.0	4.2
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)