

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: P242946

Luminaire Tested: **S121DR-H880D830-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242946  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-47)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S121DR-H880D830-X4F0-XX-UDD-F-W  
Description: DEFINE 1 DIRECT RECESSED WITH SATIN FLUSH 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: 3106.7 lumens  
Efficiency: N/A  
Efficacy: 98.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 0.09' x L: 3.88' x H: 0')  
CIE Type: Direct

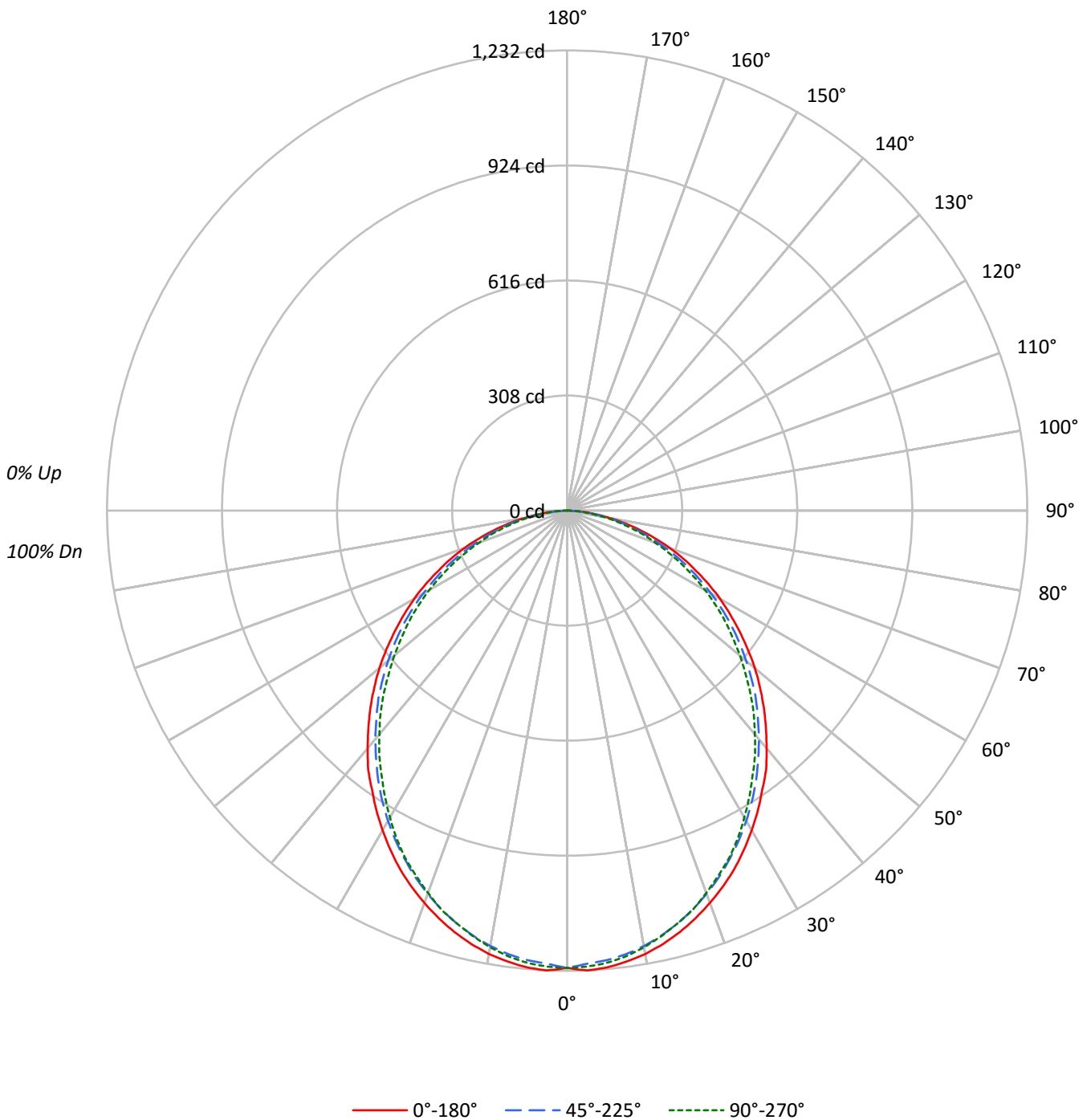
Input Watts (W): 31.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	97	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	75	80	76	73	71
3	91	80	73	66	88	79	72	66	76	70	64	73	68	63	71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52
5	77	64	55	49	75	63	55	48	61	54	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	49	42	55	48	42	53	47	42	52	46	41	39
7	66	53	44	38	64	52	44	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	34	45	38	33	44	38	33	31
9	57	44	36	31	56	44	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	28	38	32	27	37	32	27	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	36285	36285	36285
5°	36524	35950	36152
10°	36264	35614	35716
15°	35822	35092	35092
20°	35249	34426	34353
25°	34618	33654	33543
30°	33820	32811	32462
35°	32963	31896	31321
40°	32134	30904	30247
45°	31197	29960	29106
50°	30239	28824	27833
55°	29078	27730	26676
60°	28047	26430	25286
65°	26656	24987	23634
70°	25270	23200	21727
75°	23125	21053	19748
80°	20134	18599	17234
85°	17372	14278	11967



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.4	3.7
10°-20°	324.7	10.5
20°-30°	477.3	15.4
30°-40°	554.0	17.8
40°-50°	552.5	17.8
50°-60°	481.0	15.5
60°-70°	354.0	11.4
70°-80°	197.2	6.3
80°-90°	50.7	1.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	917.4	29.5
0°-40°	1471.4	47.4
0°-60°	2504.8	80.6
0°-90°	3106.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3106.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1225	1225	1225	1225	1225	
5°	1228	1221	1209	1218	1216	116
15°	1168	1161	1144	1148	1144	329
25°	1059	1046	1029	1029	1026	487
35°	911	900	882	872	866	571
45°	744	732	715	700	695	574
55°	563	553	537	522	516	504
65°	380	372	356	342	337	378
75°	202	193	184	176	172	214
85°	51	48	42	36	35	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1224.6	1224.6	1224.6	1224.6	1224.6
2.5°	1232.5	1225.7	1214.4	1224.6	1222.3
5°	1228.0	1221.2	1208.7	1217.8	1215.5
7.5°	1217.8	1212.1	1198.5	1206.4	1204.1
10°	1205.3	1198.5	1183.7	1190.5	1187.1
12.5°	1188.3	1182.6	1165.6	1171.2	1166.7
15°	1167.8	1161.0	1144.0	1148.5	1144.0
17.5°	1144.0	1137.2	1119.0	1122.4	1120.2
20°	1117.9	1108.8	1091.8	1094.1	1089.5
22.5°	1089.5	1079.3	1062.3	1062.3	1057.7
25°	1058.9	1046.4	1029.4	1029.4	1026.0
27.5°	1024.8	1013.5	995.3	993.1	989.6
30°	988.5	977.2	959.0	954.5	948.8
32.5°	951.1	938.6	921.6	913.6	907.9
35°	911.3	900.0	881.8	871.6	865.9
37.5°	875.0	859.1	839.8	830.8	826.2
40°	830.8	817.1	799.0	786.5	782.0
42.5°	787.6	775.1	755.9	743.4	740.0
45°	744.5	732.0	715.0	700.2	694.6
47.5°	700.2	687.8	670.7	656.0	648.0
50°	656.0	643.5	625.3	610.6	603.8
52.5°	609.5	600.4	581.1	567.5	558.4
55°	562.9	552.7	536.8	522.1	516.4
57.5°	517.5	508.4	491.4	475.5	472.1
60°	473.3	464.2	446.0	432.4	426.7
62.5°	426.7	417.6	400.6	387.0	381.3
65°	380.2	372.3	356.4	341.6	337.1
67.5°	337.1	326.9	312.1	298.5	292.8
70°	291.7	280.3	267.8	256.5	250.8
72.5°	246.3	237.2	227.0	215.6	213.4
75°	202.0	192.9	183.9	175.9	172.5
77.5°	160.0	153.2	146.4	138.5	136.2
80°	118.0	113.5	109.0	103.3	101.0
82.5°	82.8	79.4	72.6	68.1	65.8
85°	51.1	47.7	42.0	36.3	35.2
87.5°	23.8	19.3	14.8	12.5	11.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)