

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: P242110

Luminaire Tested: **S121DR-S880D940-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242110  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S121DR-S880D940-X4F0-XX-UDD-F-W  
Description: DEFINE 1 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3127.5 lumens  
Efficiency: N/A  
Efficacy: 89.9 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

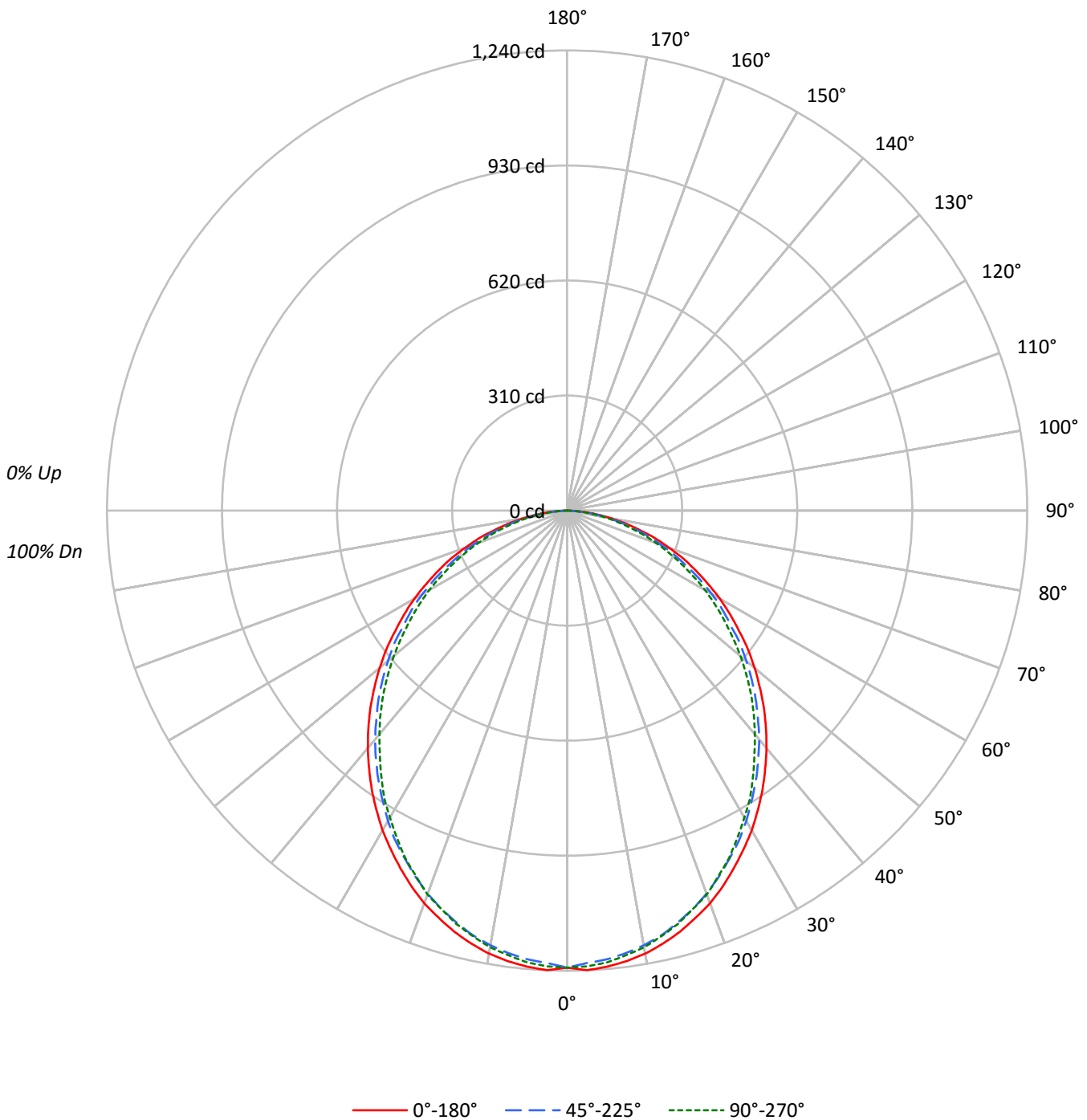
Input Watts (W): 34.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	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	72	66	88	79	71	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°	36489	36489	36489
5°	36697	36123	36358
10°	36471	35788	35957
15°	36034	35267	35371
20°	35498	34637	34710
25°	34759	33830	33755
30°	34042	33030	32681
35°	33194	32084	31588
40°	32328	31140	30436
45°	31402	30115	29353
50°	30400	29040	28095
55°	29197	27725	26728
60°	28166	26685	25470
65°	26789	25036	23760
70°	25218	23347	22065
75°	23171	21225	19782
80°	20561	18633	17268
85°	16998	13904	12375



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.0	3.7
10°-20°	326.5	10.4
20°-30°	480.3	15.4
30°-40°	557.7	17.8
40°-50°	556.4	17.8
50°-60°	484.2	15.5
60°-70°	356.6	11.4
70°-80°	198.6	6.4
80°-90°	51.2	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°	922.8	29.5
0°-40°	1480.5	47.3
0°-60°	2521.0	80.6
0°-90°	3127.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3127.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1232	1232	1232	1232	1232	
5°	1234	1228	1214	1225	1222	117
15°	1175	1166	1150	1158	1153	331
25°	1063	1052	1035	1037	1032	490
35°	918	906	887	878	873	574
45°	749	737	719	705	700	578
55°	565	558	537	526	517	507
65°	382	374	357	346	339	379
75°	202	197	185	177	173	216
85°	50	48	41	39	36	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1231.5	1231.5	1231.5	1231.5	1231.5
2.5°	1239.5	1232.7	1220.2	1230.4	1229.3
5°	1233.8	1228.1	1214.5	1224.7	1222.4
7.5°	1224.7	1217.9	1203.1	1212.2	1208.8
10°	1212.2	1205.4	1189.5	1196.3	1195.1
12.5°	1195.1	1187.2	1172.4	1178.1	1174.7
15°	1174.7	1165.6	1149.7	1157.6	1153.1
17.5°	1150.8	1140.6	1125.8	1130.3	1125.8
20°	1125.8	1114.4	1098.5	1103.0	1100.8
22.5°	1096.2	1086.0	1067.8	1070.1	1065.5
25°	1063.2	1051.9	1034.8	1037.1	1032.5
27.5°	1029.1	1018.9	1003.0	999.6	993.9
30°	995.0	982.5	965.4	960.9	955.2
32.5°	956.3	945.0	925.6	921.1	917.7
35°	917.7	906.3	887.0	877.9	873.3
37.5°	876.7	865.4	846.0	835.8	829.0
40°	835.8	823.3	805.1	794.9	786.9
42.5°	792.6	781.2	760.8	750.5	744.8
45°	749.4	736.9	718.7	705.0	700.5
47.5°	703.9	692.5	674.3	659.5	655.0
50°	659.5	647.0	630.0	615.2	609.5
52.5°	614.1	602.7	586.8	572.0	562.9
55°	565.2	558.3	536.7	526.5	517.4
57.5°	520.8	512.9	495.8	478.7	473.1
60°	475.3	466.2	450.3	435.5	429.8
62.5°	427.6	420.7	404.8	391.2	383.2
65°	382.1	374.1	357.1	345.7	338.9
67.5°	340.0	329.8	312.7	301.3	295.7
70°	291.1	283.2	269.5	260.4	254.7
72.5°	249.0	239.9	227.4	218.3	212.6
75°	202.4	196.7	185.4	177.4	172.8
77.5°	161.5	153.5	145.6	139.9	136.5
80°	120.5	114.9	109.2	103.5	101.2
82.5°	84.1	79.6	73.9	70.5	67.1
85°	50.0	47.8	40.9	38.7	36.4
87.5°	23.9	20.5	13.6	12.5	11.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)