

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P242282

Luminaire Tested: S122DRP-S865D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242282  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-S865D940-X4F0-XX-UDD-F-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

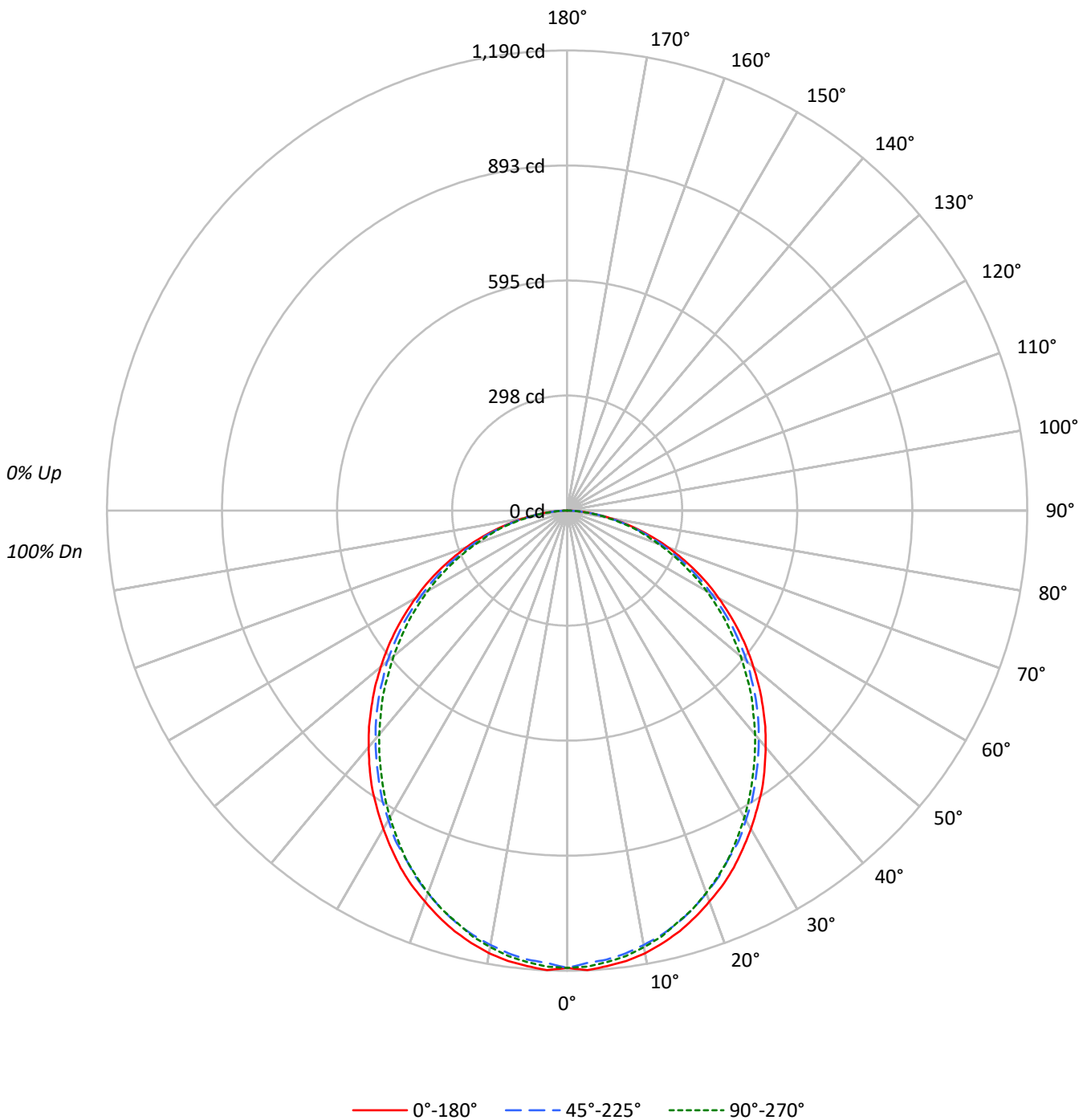
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3008.8 lumens  
Efficiency: N/A  
Efficacy: 86.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.8  
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: 24 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	74	80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	26

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

	0°	45°	90°
0°	22526	22526	22526
5°	22612	22287	22417
10°	22479	22061	22169
15°	22200	21774	21751
20°	21805	21344	21322
25°	21414	20817	20817
30°	20910	20334	20158
35°	20439	19753	19460
40°	19850	19171	18803
45°	19268	18595	18134
50°	18633	17993	17353
55°	17976	17295	16654
60°	17242	16461	15855
65°	16451	15631	14914
70°	15454	14630	13934
75°	14057	13475	13137
80°	12472	12099	11474
85°	10184	9682	8698

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 19268 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.3	3.7
10°-20°	313.2	10.4
20°-30°	460.2	15.3
30°-40°	534.5	17.8
40°-50°	533.9	17.7
50°-60°	465.5	15.5
60°-70°	344.1	11.4
70°-80°	194.7	6.5
80°-90°	51.4	1.7
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°	884.7	29.4
0°-40°	1419.2	47.2
0°-60°	2418.6	80.4
0°-90°	3008.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3008.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1183	1183	1183	1183	1183	
5°	1183	1178	1166	1175	1172	112
15°	1126	1119	1104	1109	1103	317
25°	1019	1010	990	993	990	469
35°	879	868	850	843	837	549
45°	715	707	690	678	673	552
55°	541	534	521	507	502	484
65°	365	358	347	337	331	361
75°	191	189	183	176	178	204
85°	47	46	44	41	40	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1182.6	1182.6	1182.6	1182.6	1182.6
2.5°	1189.5	1183.8	1171.3	1182.6	1180.4
5°	1182.6	1178.1	1165.6	1174.7	1172.4
7.5°	1174.7	1167.9	1155.3	1164.4	1162.2
10°	1162.2	1154.2	1140.6	1149.7	1146.2
12.5°	1145.1	1138.3	1124.6	1130.3	1128.1
15°	1125.8	1119.0	1104.2	1108.7	1103.0
17.5°	1101.9	1095.1	1080.3	1086.0	1080.3
20°	1075.7	1068.9	1053.0	1056.4	1051.9
22.5°	1049.6	1039.4	1024.6	1024.6	1022.3
25°	1018.9	1009.8	990.5	992.7	990.5
27.5°	984.8	976.8	962.0	958.6	952.9
30°	950.7	941.6	924.5	921.1	916.5
32.5°	914.3	907.4	889.3	882.4	877.9
35°	879.0	867.6	849.5	842.6	836.9
37.5°	839.2	829.0	810.8	802.8	797.1
40°	798.3	789.2	771.0	760.8	756.2
42.5°	758.5	749.4	731.2	719.8	713.0
45°	715.3	707.3	690.3	677.7	673.2
47.5°	673.2	665.2	647.0	634.5	627.7
50°	628.8	623.2	607.2	591.3	585.6
52.5°	585.6	577.7	562.9	550.4	542.4
55°	541.3	534.5	520.8	507.2	501.5
57.5°	496.9	491.2	476.5	462.8	458.3
60°	452.6	448.0	432.1	419.6	416.2
62.5°	409.4	401.4	390.0	378.7	374.1
65°	365.0	358.2	346.8	336.6	330.9
67.5°	319.5	313.9	303.6	295.7	291.1
70°	277.5	272.9	262.7	254.7	250.2
72.5°	234.3	229.7	224.0	216.1	212.6
75°	191.0	188.8	183.1	176.3	178.5
77.5°	152.4	147.8	145.6	142.1	138.7
80°	113.7	112.6	110.3	106.9	104.6
82.5°	77.3	77.3	76.2	71.6	71.6
85°	46.6	45.5	44.3	40.9	39.8
87.5°	20.5	18.2	15.9	12.5	11.4
90°	0.0	0.0	0.0	0.0	0.0



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**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	22.10	23.71	22.47	24.03	24.34	21.66	23.27	22.02	23.58	23.90
	3H	23.85	25.31	24.23	25.63	26.00	23.36	24.82	23.74	25.14	25.50
	4H	24.50	25.87	24.90	26.22	26.59	24.01	25.37	24.40	25.72	26.10
	6H	24.97	26.24	25.38	26.60	26.99	24.47	25.74	24.88	26.10	26.49
	8H	25.11	26.32	25.54	26.71	27.11	24.61	25.82	25.03	26.21	26.61
	12H	25.20	26.36	25.63	26.74	27.17	24.69	25.85	25.12	26.23	26.66
4H	2H	22.66	24.03	23.06	24.38	24.76	22.31	23.68	22.71	24.03	24.40
	3H	24.64	25.79	25.05	26.18	26.58	24.23	25.38	24.64	25.78	26.18
	4H	25.42	26.45	25.85	26.87	27.30	24.99	26.03	25.42	26.44	26.88
	6H	26.01	26.92	26.47	27.36	27.81	25.58	26.48	26.03	26.93	27.38
	8H	26.20	27.05	26.66	27.49	27.96	25.76	26.61	26.22	27.05	27.52
	12H	26.33	27.09	26.81	27.57	28.04	25.88	26.64	26.36	27.12	27.59
8H	4H	25.69	26.54	26.15	26.98	27.44	25.32	26.16	25.78	26.60	27.07
	6H	26.40	27.11	26.90	27.60	28.07	26.02	26.73	26.52	27.21	27.69
	8H	26.66	27.29	27.17	27.80	28.29	26.27	26.90	26.78	27.41	27.89
	12H	26.86	27.42	27.37	27.91	28.47	26.45	27.01	26.96	27.50	28.06
12H	4H	25.72	26.48	26.20	26.95	27.42	25.35	26.11	25.83	26.59	27.06
	6H	26.45	27.08	26.96	27.59	28.07	26.08	26.71	26.59	27.22	27.71
	8H	26.76	27.32	27.27	27.81	28.37	26.38	26.94	26.89	27.43	27.99