

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: P735937

Luminaire Tested: S122RDRP-S865D850-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735937  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/24/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122RDRP-S865D850-X4F0-XX-UDD-W-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

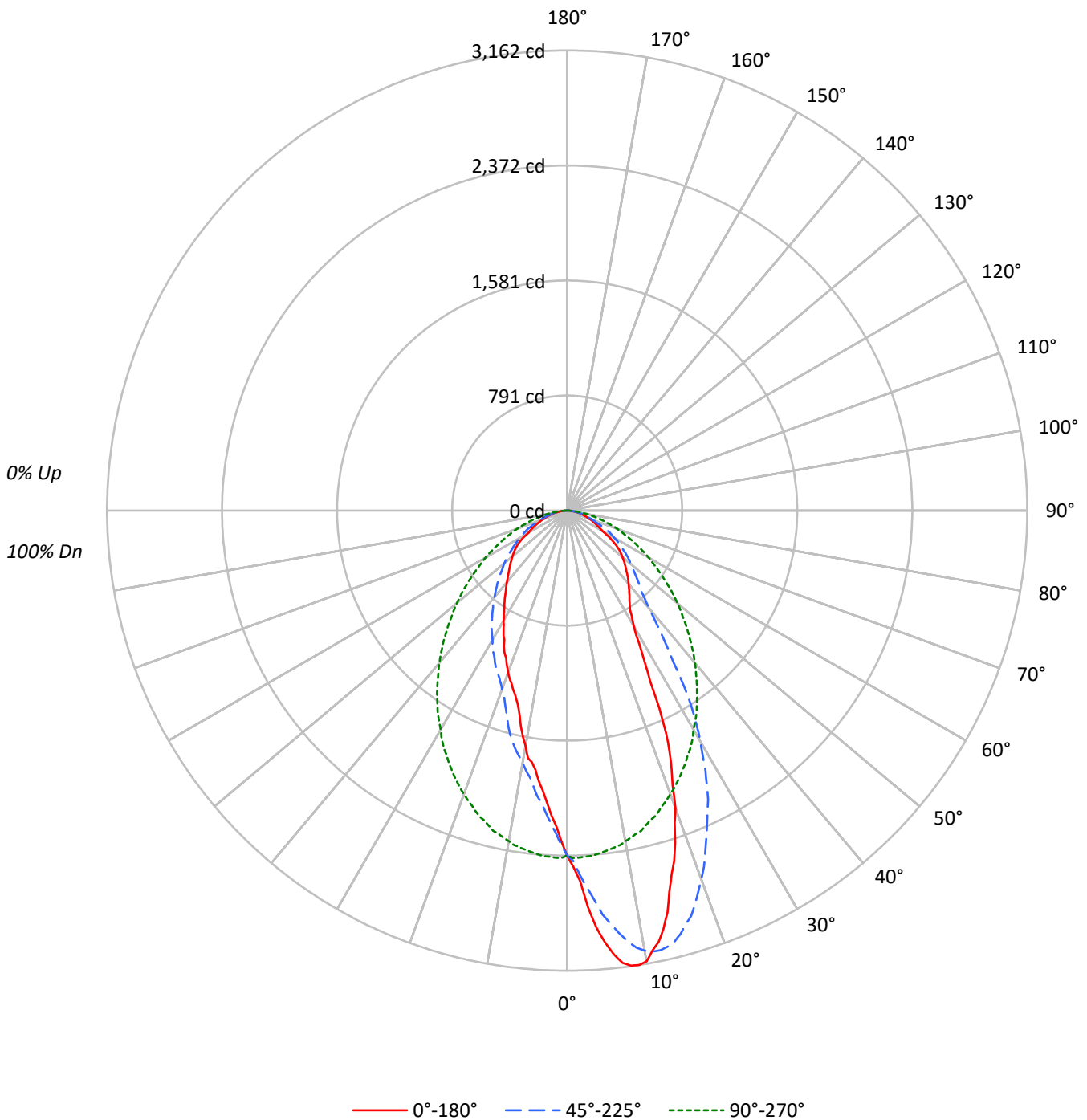
Lumens per Lamp: N/A  
Luminaire Lumens: 4060.9 lumens  
Efficiency: N/A  
Efficacy: 116.0 lumens/watt  
Spacing Criteria (0/90/45): 0.82 / 1.11 / 1  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

Input Watts (W): 35  
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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87				87
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75				75
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66				66
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58				58
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54	52				52
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46				46
7	71	58	50	45	69	57	50	45	56	49	44	55	49	44	53	48	44	42				42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38				38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35				35
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32				32

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

	0°	45°	90°	135°	180°
0°	45554	45554	45554	45554	45554
5°	57469	53757	45728	38854	37204
10°	61389	59943	45033	34381	32126
15°	53995	59923	43842	30826	26771
20°	44514	55152	42444	26761	24225
25°	31736	48421	40743	24784	21792
30°	20306	40614	38557	22743	19358
35°	17488	29929	36551	21102	17556
40°	16485	21885	34293	19524	16126
45°	15573	18751	31883	18090	15225
50°	14829	17090	29619	16832	14658
55°	13612	15807	27077	15472	14135
60°	10737	14408	24872	14520	11944
65°	9724	12899	22554	13481	10888
70°	8969	10414	20501	11611	10009
75°	8362	9417	17883	10375	9417
80°	7726	8523	15143	9309	8523
85°	6925	7542	11622	8182	7542

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 44626 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	229.8	5.7
10°-20°	617.6	15.2
20°-30°	774.7	19.1
30°-40°	738.2	18.2
40°-50°	651.2	16.0
50°-60°	512.2	12.6
60°-70°	326.9	8.0
70°-80°	166.2	4.1
80°-90°	44.1	1.1
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°	1622.2	39.9
0°-40°	2360.3	58.1
0°-60°	3523.8	86.8
0°-90°	4060.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4060.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2370	2370	2370	2370	2370	
5°	2978	2786	2370	2014	1928	290
15°	2713	3011	2203	1549	1345	752
25°	1496	2283	1921	1169	1028	674
35°	745	1276	1558	899	748	474
45°	573	690	1173	666	560	444
55°	406	472	808	462	422	357
65°	214	284	496	296	239	214
75°	113	127	241	140	127	120
85°	31	34	53	37	34	36
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	2370.0	2370.0	2370.0	2370.0	2370.0	2370.0	2370.0	2370.0	2370.0
1°	2449.8	2461.2	2408.5	2414.2	2388.5	2342.9	2298.7	2303.0	2271.7
2°	2548.1	2578.1	2505.4	2461.2	2387.1	2307.3	2218.9	2207.5	2169.0
3°	2726.3	2712.0	2592.3	2502.5	2381.4	2261.7	2150.5	2124.9	2092.1
4°	2870.2	2827.5	2680.7	2555.3	2378.5	2208.9	2083.5	2039.4	2006.6
5°	2978.5	2924.4	2786.1	2595.2	2370.0	2179.0	2013.7	1963.8	1928.2
6°	3065.5	3024.1	2854.5	2632.2	2358.6	2134.8	1972.4	1905.4	1868.3
7°	3132.4	3098.2	2924.4	2682.1	2348.6	2090.7	1906.8	1837.0	1792.8
8°	3158.1	3142.4	2988.5	2717.7	2337.2	2059.3	1848.4	1785.7	1745.8
9°	3162.4	3163.8	3039.8	2751.9	2327.2	2002.3	1807.1	1742.9	1721.6
10°	3145.3	3158.1	3071.2	2790.4	2307.3	1973.8	1761.5	1700.2	1646.0
11°	3078.3	3135.3	3086.8	2816.1	2290.2	1928.2	1721.6	1641.7	1587.6
12°	3028.4	3082.6	3088.3	2848.8	2270.2	1906.8	1687.4	1580.5	1523.5
13°	2945.7	3002.7	3074.0	2857.4	2258.8	1854.1	1644.6	1517.8	1447.9
14°	2847.4	2938.6	3051.2	2875.9	2230.3	1808.5	1601.8	1429.4	1388.1
15°	2713.4	2843.1	3011.3	2883.0	2203.2	1777.1	1549.1	1385.2	1345.3
16°	2602.3	2749.1	2957.1	2883.0	2186.1	1734.4	1492.1	1346.7	1306.8
17°	2518.2	2637.9	2913.0	2884.5	2157.6	1704.5	1435.1	1311.1	1279.8
18°	2399.9	2533.9	2843.1	2878.8	2127.7	1668.8	1386.7	1281.2	1242.7
19°	2268.8	2428.4	2769.0	2868.8	2102.1	1631.8	1335.3	1249.8	1217.1
20°	2176.2	2323.0	2696.3	2853.1	2075.0	1607.5	1308.3	1214.2	1184.3
21°	2020.8	2200.4	2623.7	2831.7	2046.5	1566.2	1271.2	1182.9	1150.1
22.5°	1862.6	2028.0	2489.7	2796.1	1999.5	1514.9	1229.9	1144.4	1095.9
23°	1801.4	1986.6	2448.4	2786.1	1983.8	1502.1	1217.1	1127.3	1084.5
24°	1670.3	1862.6	2362.9	2754.8	1949.6	1459.3	1192.8	1093.1	1063.1
25°	1496.4	1757.2	2283.1	2722.0	1921.1	1428.0	1168.6	1066.0	1027.5
26°	1299.7	1613.2	2210.4	2682.1	1881.2	1385.2	1135.8	1040.3	986.2
27°	1178.6	1489.3	2112.0	2639.3	1852.7	1353.9	1108.8	1001.9	963.4
28°	1081.7	1294.0	2023.7	2598.0	1818.5	1315.4	1090.2	974.8	929.2
29°	976.2	1187.1	1919.6	2542.4	1781.4	1271.2	1060.3	947.7	899.3
30°	914.9	1073.1	1829.9	2501.1	1737.2	1241.3	1024.7	920.6	872.2
32.5°	803.8	885.0	1586.2	2382.8	1653.1	1155.8	966.2	846.5	805.2
35°	745.3	788.1	1275.5	2244.6	1557.7	1084.5	899.3	785.2	748.2
37.5°	701.2	726.8	1053.2	2096.4	1460.8	1021.8	838.0	728.2	692.6
40°	657.0	676.9	872.2	1953.9	1366.7	960.5	778.1	669.8	642.7
42.5°	617.1	632.8	756.7	1812.8	1269.8	897.8	719.7	624.2	600.0
45°	572.9	587.2	689.8	1641.7	1172.9	833.7	665.5	574.3	560.1
47.5°	535.8	545.8	625.6	1489.3	1077.4	772.4	610.0	534.4	524.4
50°	495.9	508.8	571.5	1319.7	990.5	712.6	562.9	498.8	490.2
52.5°	457.5	463.2	525.9	1150.1	899.3	654.1	513.0	463.2	457.5
55°	406.2	429.0	471.7	976.2	808.0	600.0	461.7	426.1	421.8
57.5°	347.7	377.7	423.3	819.4	722.5	540.1	420.4	391.9	373.4
60°	279.3	315.0	374.8	681.2	647.0	486.0	377.7	333.5	310.7
62.5°	245.1	256.5	330.6	570.1	570.1	434.7	334.9	286.5	276.5
65°	213.8	222.3	283.6	471.7	495.9	377.7	296.4	248.0	239.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	186.7	193.8	216.6	393.3	427.5	329.2	245.1	216.6	206.6
70°	159.6	165.3	185.3	320.7	364.8	280.8	206.6	185.3	178.1
72.5°	135.4	141.1	152.5	240.8	299.3	233.7	173.9	158.2	152.5
75°	112.6	115.4	126.8	179.6	240.8	186.7	139.7	129.7	126.8
77.5°	91.2	92.6	99.8	128.3	186.7	142.5	112.6	104.0	102.6
80°	69.8	71.3	77.0	92.6	136.8	102.6	84.1	79.8	77.0
82.5°	49.9	51.3	54.2	62.7	92.6	69.8	59.9	58.4	54.2
85°	31.4	31.4	34.2	38.5	52.7	39.9	37.1	35.6	34.2
87.5°	14.3	14.3	15.7	15.7	24.2	17.1	17.1	15.7	14.3
90°	0.0	0.0	0.0	0.0	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	19.70	21.17	20.07	21.49	21.80	22.40	23.87	22.76	24.18	24.49
	3H	20.82	22.13	21.20	22.46	22.82	23.84	25.15	24.22	25.48	25.84
	4H	21.26	22.49	21.66	22.84	23.22	24.34	25.57	24.74	25.92	26.30
	6H	21.61	22.74	22.02	23.11	23.50	24.67	25.80	25.08	26.17	26.56
	8H	21.72	22.80	22.15	23.19	23.59	24.76	25.84	25.18	26.23	26.63
	12H	21.80	22.83	22.23	23.21	23.64	24.80	25.84	25.24	26.22	26.65
4H	2H	20.87	22.10	21.27	22.45	22.83	22.85	24.08	23.25	24.43	24.81
	3H	22.10	23.12	22.51	23.52	23.92	24.51	25.53	24.92	25.93	26.33
	4H	22.58	23.50	23.01	23.91	24.35	25.15	26.06	25.58	26.48	26.92
	6H	22.98	23.78	23.44	24.22	24.68	25.60	26.40	26.06	26.84	27.30
	8H	23.12	23.86	23.58	24.30	24.77	25.73	26.47	26.19	26.92	27.39
	12H	23.22	23.88	23.70	24.36	24.83	25.81	26.47	26.29	26.95	27.42
8H	4H	22.98	23.72	23.45	24.17	24.64	25.26	26.00	25.72	26.45	26.92
	6H	23.47	24.09	23.97	24.58	25.06	25.82	26.43	26.32	26.93	27.41
	8H	23.66	24.21	24.18	24.72	25.21	26.02	26.57	26.54	27.08	27.57
	12H	23.82	24.31	24.33	24.80	25.36	26.17	26.65	26.68	27.15	27.71
12H	4H	23.03	23.69	23.51	24.17	24.64	25.25	25.91	25.73	26.39	26.86
	6H	23.54	24.09	24.06	24.60	25.09	25.82	26.37	26.33	26.88	27.37
	8H	23.78	24.27	24.30	24.76	25.33	26.06	26.55	26.58	27.04	27.61