

Scaled data based on original data using  
LM-79-2019 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: S122RDR-S865D850-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2019  
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: S122RDR-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

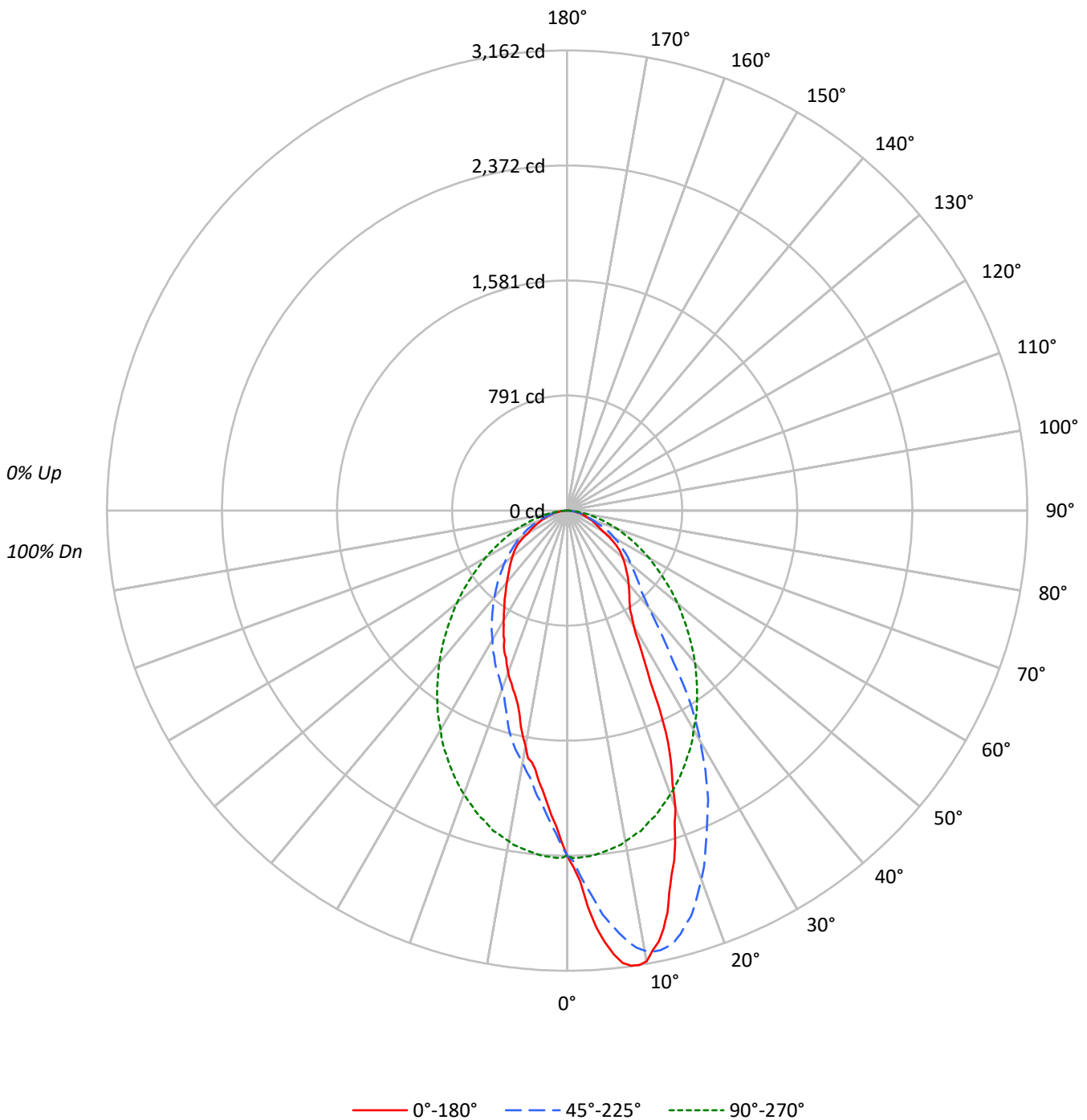
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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

(END OF REPORT)