

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: P735936

Luminaire Tested: S122RDR-S865D840-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P735936  
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-S865D840-X4F0-XX-UDD-W-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3697.9 lumens  
Efficiency: N/A  
Efficacy: 105.7 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

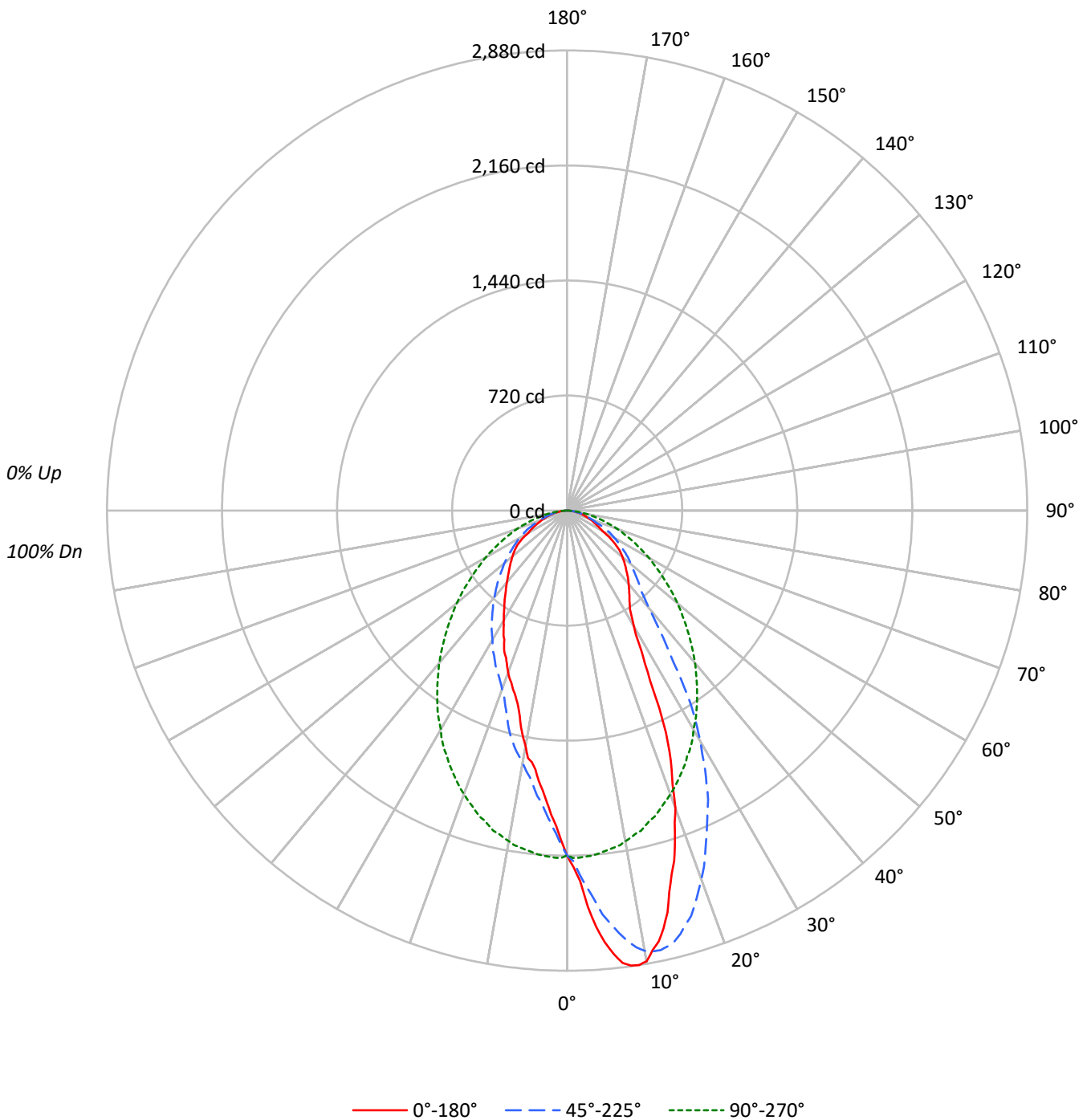
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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°	41481	41481	41481	41481	41481
5°	52333	48953	41640	35381	33878
10°	55901	54583	41007	31307	29255
15°	49169	54566	39924	28070	24379
20°	40533	50223	38649	24368	22059
25°	28898	44092	37100	22568	19845
30°	18491	36983	35110	20710	17627
35°	15926	27254	33283	19215	15987
40°	15012	19928	31226	17780	14686
45°	14181	17074	29031	16473	13863
50°	13504	15562	26970	15328	13349
55°	12396	14396	24658	14091	12872
60°	9780	13120	22650	13220	10875
65°	8855	11743	20539	12275	9915
70°	8166	9481	18669	10577	9116
75°	7612	8578	16286	9447	8578
80°	7040	7759	13792	8479	7759
85°	6307	6859	10586	7432	6859

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 40639 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	209.3	5.7
10°-20°	562.4	15.2
20°-30°	705.5	19.1
30°-40°	672.2	18.2
40°-50°	593.0	16.0
50°-60°	466.5	12.6
60°-70°	297.6	8.0
70°-80°	151.3	4.1
80°-90°	40.1	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°	1477.2	39.9
0°-40°	2149.3	58.1
0°-60°	3208.8	86.8
0°-90°	3697.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3697.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2158	2158	2158	2158	2158	
5°	2712	2537	2158	1834	1756	264
15°	2471	2742	2006	1411	1225	684
25°	1363	2079	1749	1064	936	614
35°	679	1162	1418	819	681	432
45°	522	628	1068	606	510	404
55°	370	430	736	420	384	325
65°	195	258	452	270	218	195
75°	102	116	219	127	116	109
85°	29	31	48	34	31	32
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°	2158.1	2158.1	2158.1	2158.1	2158.1	2158.1	2158.1	2158.1	2158.1
1°	2230.8	2241.2	2193.2	2198.4	2175.0	2133.5	2093.2	2097.1	2068.6
2°	2320.4	2347.6	2281.4	2241.2	2173.7	2101.0	2020.6	2010.2	1975.2
3°	2482.6	2469.6	2360.6	2278.8	2168.5	2059.5	1958.3	1934.9	1905.1
4°	2613.6	2574.7	2441.0	2326.8	2165.9	2011.5	1897.3	1857.1	1827.2
5°	2712.3	2663.0	2537.1	2363.2	2158.1	1984.2	1833.7	1788.3	1755.8
6°	2791.4	2753.8	2599.4	2396.9	2147.8	1944.0	1796.1	1735.1	1701.3
7°	2852.4	2821.3	2663.0	2442.3	2138.7	1903.8	1736.4	1672.8	1632.6
8°	2875.8	2861.5	2721.4	2474.8	2128.3	1875.2	1683.2	1626.1	1589.7
9°	2879.7	2881.0	2768.1	2505.9	2119.2	1823.3	1645.5	1587.1	1567.7
10°	2864.1	2875.8	2796.6	2541.0	2101.0	1797.4	1604.0	1548.2	1498.9
11°	2803.1	2855.0	2810.9	2564.3	2085.5	1755.8	1567.7	1495.0	1445.7
12°	2757.7	2807.0	2812.2	2594.2	2067.3	1736.4	1536.5	1439.2	1387.3
13°	2682.4	2734.3	2799.2	2602.0	2056.9	1688.4	1497.6	1382.1	1318.5
14°	2592.9	2675.9	2778.5	2618.8	2031.0	1646.8	1458.7	1301.6	1264.0
15°	2470.9	2589.0	2742.1	2625.3	2006.3	1618.3	1410.6	1261.4	1225.1
16°	2369.7	2503.3	2692.8	2625.3	1990.7	1579.3	1358.7	1226.4	1190.0
17°	2293.1	2402.1	2652.6	2626.6	1964.8	1552.1	1306.8	1193.9	1165.4
18°	2185.4	2307.4	2589.0	2621.4	1937.5	1519.6	1262.7	1166.7	1131.6
19°	2066.0	2211.3	2521.5	2612.3	1914.2	1485.9	1216.0	1138.1	1108.3
20°	1981.6	2115.3	2455.3	2598.1	1889.5	1463.8	1191.3	1105.7	1078.4
21°	1840.2	2003.7	2389.1	2578.6	1863.5	1426.2	1157.6	1077.1	1047.3
22.5°	1696.1	1846.7	2267.1	2546.2	1820.7	1379.5	1119.9	1042.1	998.0
23°	1640.3	1809.0	2229.5	2537.1	1806.4	1367.8	1108.3	1026.5	987.6
24°	1520.9	1696.1	2151.6	2508.5	1775.3	1328.9	1086.2	995.4	968.1
25°	1362.6	1600.1	2079.0	2478.7	1749.3	1300.3	1064.1	970.7	935.7
26°	1183.5	1469.0	2012.8	2442.3	1713.0	1261.4	1034.3	947.3	898.0
27°	1073.2	1356.1	1923.2	2403.4	1687.1	1232.8	1009.6	912.3	877.3
28°	985.0	1178.3	1842.8	2365.8	1655.9	1197.8	992.8	887.7	846.1
29°	888.9	1081.0	1748.0	2315.2	1622.2	1157.6	965.5	863.0	818.9
30°	833.1	977.2	1666.3	2277.5	1581.9	1130.3	933.1	838.3	794.2
32.5°	731.9	805.9	1444.4	2169.8	1505.4	1052.5	879.9	770.9	733.2
35°	678.7	717.6	1161.5	2043.9	1418.4	987.6	818.9	715.1	681.3
37.5°	638.5	661.8	959.0	1909.0	1330.2	930.5	763.1	663.1	630.7
40°	598.3	616.4	794.2	1779.2	1244.5	874.7	708.6	609.9	585.3
42.5°	561.9	576.2	689.1	1650.7	1156.3	817.6	655.4	568.4	546.3
45°	521.7	534.7	628.1	1495.0	1068.0	759.2	606.0	523.0	510.0
47.5°	487.9	497.0	569.7	1356.1	981.1	703.4	555.4	486.7	477.6
50°	451.6	463.3	520.4	1201.7	901.9	648.9	512.6	454.2	446.4
52.5°	416.6	421.8	478.9	1047.3	818.9	595.7	467.2	421.8	416.6
55°	369.9	390.6	429.6	888.9	735.8	546.3	420.5	388.0	384.1
57.5°	316.6	343.9	385.4	746.2	658.0	491.8	382.8	356.9	340.0
60°	254.4	286.8	341.3	620.3	589.2	442.5	343.9	303.7	282.9
62.5°	223.2	233.6	301.1	519.1	519.1	395.8	305.0	260.8	251.8
65°	194.7	202.4	258.2	429.6	451.6	343.9	269.9	225.8	218.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	170.0	176.5	197.3	358.2	389.3	299.8	223.2	197.3	188.2
70°	145.3	150.5	168.7	292.0	332.2	255.7	188.2	168.7	162.2
72.5°	123.3	128.5	138.9	219.3	272.5	212.8	158.3	144.0	138.9
75°	102.5	105.1	115.5	163.5	219.3	170.0	127.2	118.1	115.5
77.5°	83.1	84.4	90.8	116.8	170.0	129.8	102.5	94.7	93.4
80°	63.6	64.9	70.1	84.4	124.6	93.4	76.6	72.7	70.1
82.5°	45.4	46.7	49.3	57.1	84.4	63.6	54.5	53.2	49.3
85°	28.6	28.6	31.1	35.0	48.0	36.3	33.7	32.4	31.1
87.5°	13.0	13.0	14.3	14.3	22.1	15.6	15.6	14.3	13.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)