

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: P735892

Luminaire Tested: S122DR-S865D850-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P735892  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/24/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DR-S865D850-X4F0-XX-UDD-W-W  
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4219.0 lumens  
Efficiency: N/A  
Efficacy: 120.5 lumens/watt  
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

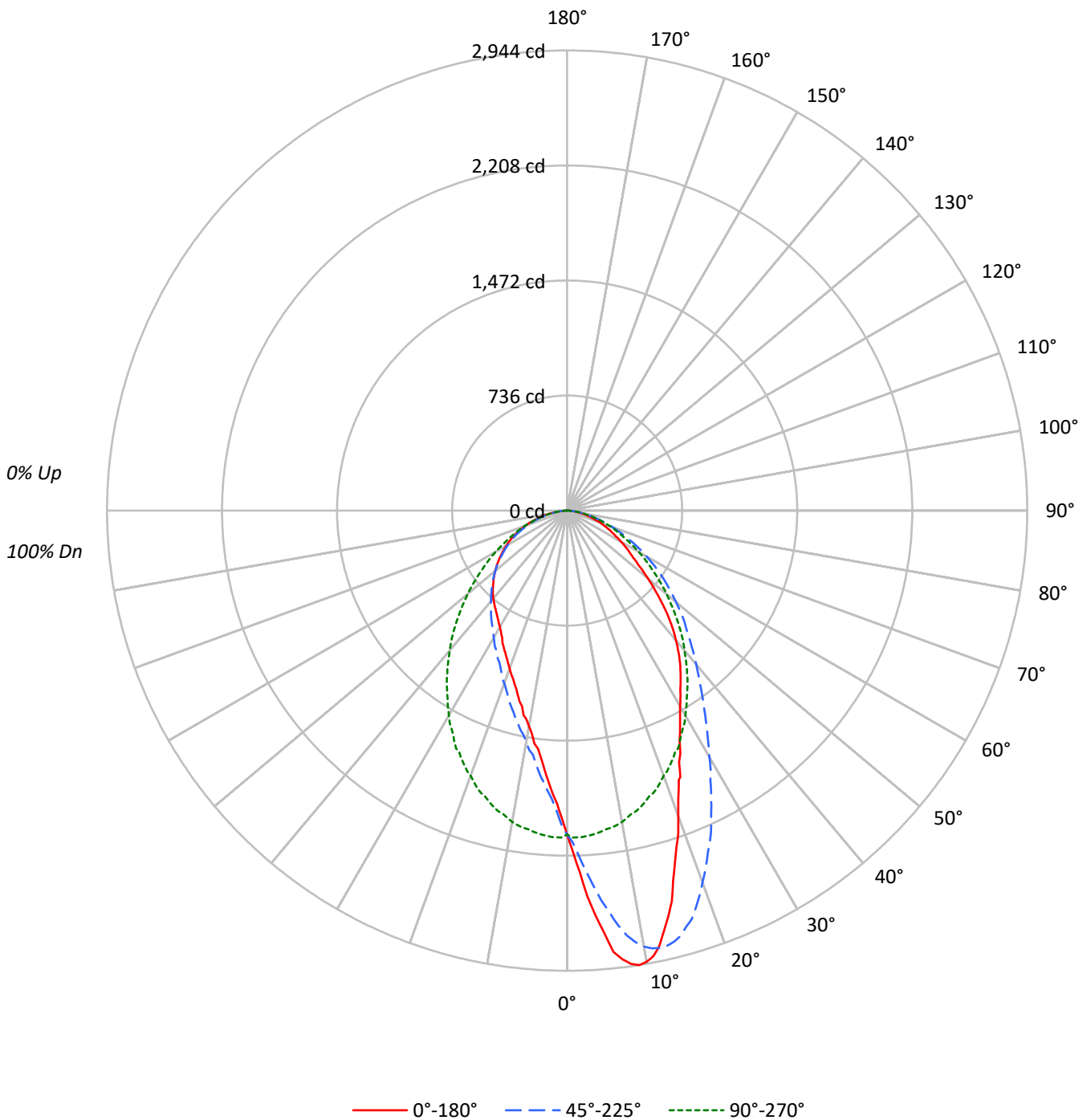
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20																		
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	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	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86									86																			
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74									74																			
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64									64																			
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58	56									56																			
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51	49									49																			
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46	44									44																			
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41	39									39																			
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37	35									35																			
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34	32									32																			
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	30									30																			

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

	0°	45°	90°	135°	180°
0°	39857	39857	39857	39857	39857
5°	52273	48312	40064	33602	32062
10°	57216	55298	39471	29372	27370
15°	51472	56009	38398	26516	24275
20°	42472	51800	36933	24049	22009
25°	36300	46213	35634	22245	20402
30°	32105	40361	33592	20845	19105
35°	29695	35749	31502	19863	18558
40°	27177	32255	29322	19024	18452
45°	23940	29442	27118	18441	18207
50°	20158	27146	24843	17942	17984
55°	16953	24976	22446	17335	17670
60°	15285	22573	20378	16819	17311
65°	13872	19834	18147	16009	16983
70°	12493	17141	16337	14814	16101
75°	10902	14497	13969	13442	14712
80°	9154	11357	11357	11678	12309
85°	6925	8182	8491	9108	8800

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 43232 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	204.1	4.8
10°-20°	560.1	13.3
20°-30°	734.5	17.4
30°-40°	776.3	18.4
40°-50°	720.8	17.1
50°-60°	576.9	13.7
60°-70°	394.5	9.4
70°-80°	203.6	4.8
80°-90°	48.4	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°	1498.6	35.5
0°-40°	2274.9	53.9
0°-60°	3572.5	84.7
0°-90°	4219.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4219.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2074	2074	2074	2074	2074	
5°	2709	2504	2076	1742	1662	267
15°	2587	2815	1930	1332	1220	710
25°	1712	2179	1680	1049	962	789
35°	1266	1524	1342	846	791	790
45°	881	1083	998	678	670	676
55°	506	745	670	517	527	463
65°	305	436	399	352	373	303
75°	147	195	188	181	198	156
85°	31	37	38	41	40	38
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°	2073.6	2073.6	2073.6	2073.6	2073.6	2073.6	2073.6	2073.6	2073.6
1°	2187.6	2176.2	2126.3	2129.1	2092.1	2050.8	2012.3	1988.1	1968.1
2°	2315.8	2293.0	2214.6	2176.2	2092.1	2003.7	1923.9	1902.5	1875.5
3°	2471.2	2417.0	2308.7	2217.5	2089.2	1961.0	1851.2	1812.8	1808.5
4°	2596.6	2548.1	2404.2	2260.3	2082.1	1919.6	1795.7	1754.3	1734.4
5°	2709.2	2677.8	2503.9	2314.4	2076.4	1879.7	1741.5	1684.5	1661.7
6°	2838.9	2774.7	2583.8	2368.6	2066.4	1841.3	1693.1	1624.6	1593.3
7°	2891.6	2851.7	2673.5	2404.2	2053.6	1797.1	1631.8	1557.7	1534.9
8°	2928.6	2913.0	2744.8	2462.6	2047.9	1755.8	1577.6	1532.0	1504.9
9°	2944.3	2931.5	2796.1	2486.8	2037.9	1734.4	1550.5	1475.0	1445.1
10°	2931.5	2937.2	2833.2	2523.9	2022.3	1690.2	1504.9	1439.4	1402.3
11°	2901.6	2915.8	2853.1	2566.7	2002.3	1654.6	1463.6	1396.6	1361.0
12°	2844.6	2875.9	2861.7	2596.6	1983.8	1623.2	1435.1	1371.0	1339.6
13°	2756.2	2826.0	2856.0	2609.4	1972.4	1587.6	1399.5	1325.4	1285.5
14°	2676.4	2749.1	2840.3	2637.9	1952.4	1547.7	1366.7	1292.6	1258.4
15°	2586.6	2670.7	2814.6	2646.5	1929.6	1514.9	1332.5	1251.3	1219.9
16°	2461.2	2573.8	2767.6	2656.4	1902.5	1477.9	1301.1	1224.2	1182.9
17°	2357.2	2478.3	2732.0	2662.1	1888.3	1449.4	1274.1	1182.9	1155.8
18°	2261.7	2398.5	2667.8	2657.9	1865.5	1416.6	1234.2	1152.9	1127.3
19°	2186.1	2297.3	2603.7	2647.9	1834.1	1385.2	1204.2	1131.6	1101.6
20°	2076.4	2204.7	2532.4	2643.6	1805.6	1356.7	1175.7	1101.6	1076.0
21°	1985.2	2116.3	2466.9	2629.4	1785.7	1329.6	1154.4	1073.1	1050.3
22.5°	1865.5	1980.9	2357.2	2602.3	1741.5	1284.0	1107.3	1046.0	1014.7
23°	1851.2	1949.6	2328.7	2593.7	1728.7	1274.1	1091.6	1030.4	1004.7
24°	1761.5	1865.5	2261.7	2566.7	1695.9	1242.7	1066.0	1011.8	981.9
25°	1711.6	1797.1	2179.0	2541.0	1680.2	1214.2	1048.9	987.6	962.0
26°	1641.7	1740.1	2104.9	2503.9	1646.0	1188.6	1021.8	966.2	942.0
27°	1590.4	1673.1	2028.0	2476.9	1606.1	1161.5	1000.4	944.9	914.9
28°	1540.6	1620.4	1953.8	2432.7	1577.6	1131.6	984.8	926.3	897.8
29°	1489.3	1559.1	1894.0	2398.5	1550.5	1105.9	960.5	902.1	875.0
30°	1446.5	1510.6	1818.5	2352.9	1513.5	1076.0	939.2	885.0	860.8
32.5°	1348.2	1402.3	1664.5	2244.6	1425.1	1016.1	887.9	838.0	823.7
35°	1265.5	1301.1	1523.5	2123.4	1342.5	952.0	846.5	798.1	790.9
37.5°	1178.6	1212.8	1395.2	1996.6	1255.5	893.6	799.5	768.1	762.4
40°	1083.1	1128.7	1285.5	1871.2	1168.6	836.5	758.2	733.9	735.4
42.5°	987.6	1040.3	1178.6	1724.4	1087.4	782.4	718.3	701.2	704.0
45°	880.7	947.7	1083.1	1590.4	997.6	731.1	678.4	669.8	669.8
47.5°	769.6	855.1	1000.4	1452.2	912.1	679.8	639.9	634.2	637.0
50°	674.1	751.0	907.8	1318.2	830.8	632.8	600.0	598.6	601.4
52.5°	580.0	657.0	826.6	1192.8	748.2	590.0	561.5	561.5	564.4
55°	505.9	565.8	745.3	1061.7	669.8	540.1	517.3	521.6	527.3
57.5°	454.6	494.5	665.5	936.3	597.1	491.7	477.4	480.3	487.4
60°	397.6	429.0	587.2	820.9	530.1	444.6	437.5	443.2	450.3
62.5°	346.3	373.4	513.0	716.8	457.5	399.0	396.2	404.7	411.9
65°	305.0	323.5	436.1	611.4	399.0	353.4	352.0	364.8	373.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	262.2	276.5	369.1	511.6	340.6	307.8	307.8	322.1	329.2
70°	222.3	233.7	305.0	421.8	290.7	262.2	263.6	280.7	286.5
72.5°	181.0	191.0	248.0	339.2	235.1	219.5	223.7	238.0	243.7
75°	146.8	153.9	195.2	267.9	188.1	175.3	181.0	193.8	198.1
77.5°	112.6	118.3	143.9	196.7	143.9	136.8	142.5	153.9	153.9
80°	82.7	84.1	102.6	138.2	102.6	98.3	105.5	111.2	111.2
82.5°	54.2	57.0	67.0	88.4	68.4	67.0	69.8	74.1	74.1
85°	31.4	32.8	37.1	48.5	38.5	38.5	41.3	41.3	39.9
87.5°	12.8	14.3	15.7	18.5	17.1	18.5	18.5	15.7	17.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)