

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: P735897

Luminaire Tested: S122DRP-S865D950-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735897  
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: S122DRP-S865D950-X4F0-XX-UDD-W-W  
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

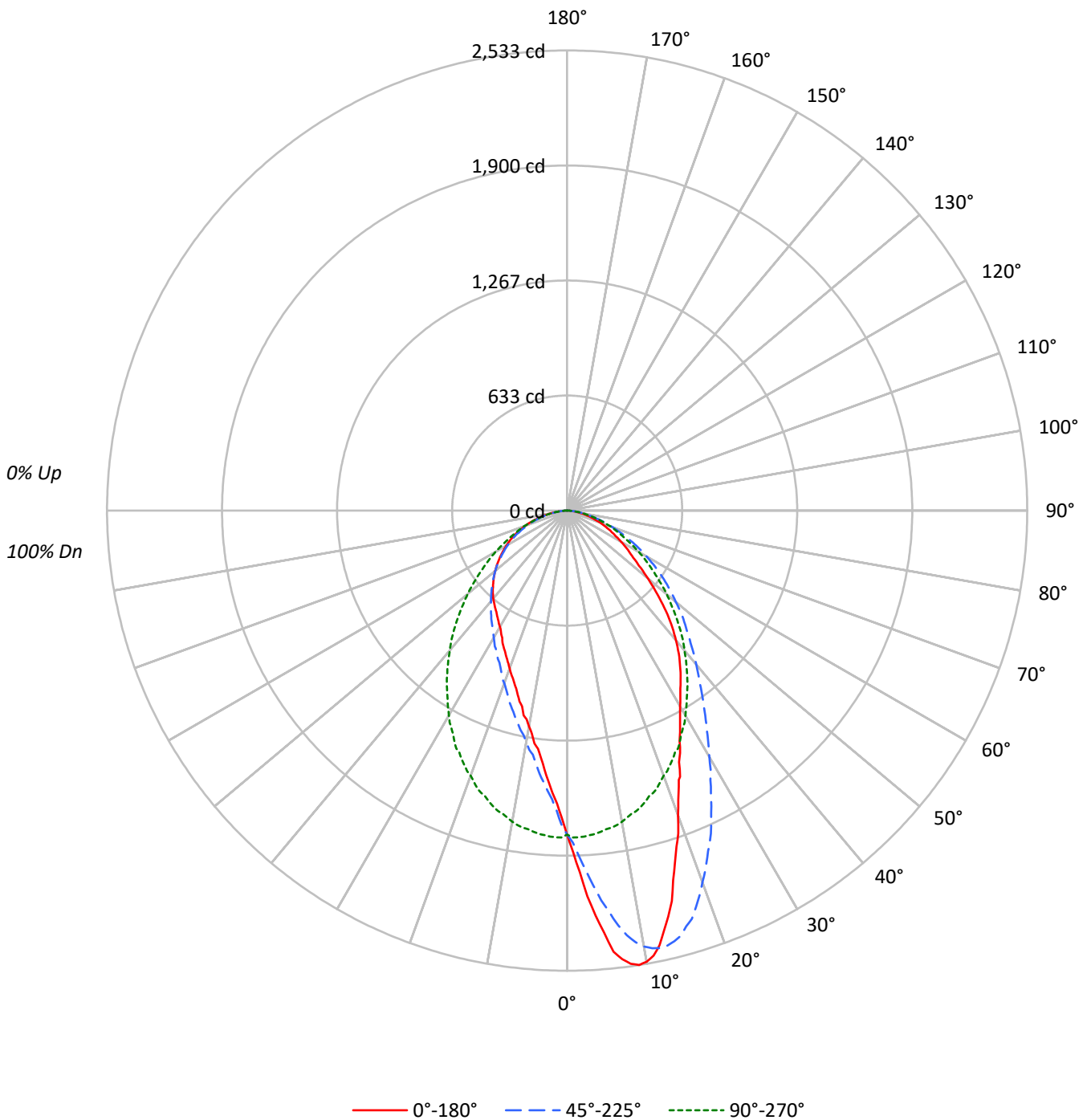
Lumens per Lamp: N/A  
Luminaire Lumens: 3629.3 lumens  
Efficiency: N/A  
Efficacy: 103.7 lumens/watt  
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

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					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	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°	34285	34285	34285	34285	34285
5°	44966	41561	34464	28905	27580
10°	49220	47569	33953	25268	23544
15°	44278	48180	33031	22811	20882
20°	36536	44561	31773	20688	18933
25°	31227	39755	30655	19136	17550
30°	27617	34719	28898	17931	16435
35°	25544	30751	27097	17087	15965
40°	23378	27746	25225	16365	15873
45°	20594	25326	23328	15861	15663
50°	17341	23351	21372	15433	15469
55°	14584	21487	19309	14913	15201
60°	13147	19417	17534	14470	14893
65°	11934	17060	15614	13772	14609
70°	10745	14747	14055	12746	13847
75°	9380	12477	12016	11563	12655
80°	7870	9774	9774	10040	10582
85°	5955	7035	7300	7851	7565

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 37192 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	175.5	4.8
10°-20°	481.8	13.3
20°-30°	631.8	17.4
30°-40°	667.8	18.4
40°-50°	620.0	17.1
50°-60°	496.2	13.7
60°-70°	339.4	9.4
70°-80°	175.1	4.8
80°-90°	41.6	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°	1289.1	35.5
0°-40°	1956.9	53.9
0°-60°	3073.2	84.7
0°-90°	3629.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3629.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1784	1784	1784	1784	1784	
5°	2330	2154	1786	1498	1429	230
15°	2225	2421	1660	1146	1049	611
25°	1472	1874	1445	902	828	679
35°	1089	1310	1155	728	680	679
45°	758	932	858	584	576	582
55°	435	641	576	445	454	399
65°	262	375	343	303	321	260
75°	126	168	162	156	170	134
85°	27	32	33	36	34	33
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°	1783.7	1783.7	1783.7	1783.7	1783.7	1783.7	1783.7	1783.7	1783.7
1°	1881.8	1872.0	1829.1	1831.6	1799.7	1764.1	1731.0	1710.2	1693.0
2°	1992.2	1972.5	1905.1	1872.0	1799.7	1723.7	1655.0	1636.6	1613.3
3°	2125.8	2079.2	1986.0	1907.6	1797.2	1686.9	1592.5	1559.4	1555.7
4°	2233.7	2192.0	2068.2	1944.3	1791.1	1651.3	1544.7	1509.1	1492.0
5°	2330.5	2303.5	2154.0	1990.9	1786.2	1617.0	1498.1	1449.1	1429.4
6°	2442.1	2386.9	2222.6	2037.5	1777.6	1583.9	1456.4	1397.6	1370.6
7°	2487.4	2453.1	2299.9	2068.2	1766.6	1545.9	1403.7	1340.0	1320.3
8°	2519.3	2505.8	2361.2	2118.4	1761.7	1510.4	1357.1	1317.9	1294.6
9°	2532.8	2521.8	2405.3	2139.3	1753.1	1492.0	1333.8	1268.9	1243.1
10°	2521.8	2526.7	2437.2	2171.1	1739.6	1454.0	1294.6	1238.2	1206.3
11°	2496.0	2508.3	2454.3	2207.9	1722.4	1423.3	1259.0	1201.4	1170.8
12°	2447.0	2474.0	2461.7	2233.7	1706.5	1396.3	1234.5	1179.4	1152.4
13°	2371.0	2431.0	2456.8	2244.7	1696.7	1365.7	1203.9	1140.1	1105.8
14°	2302.3	2364.8	2443.3	2269.2	1679.5	1331.4	1175.7	1111.9	1082.5
15°	2225.1	2297.4	2421.2	2276.6	1659.9	1303.2	1146.3	1076.4	1049.4
16°	2117.2	2214.1	2380.8	2285.2	1636.6	1271.3	1119.3	1053.1	1017.5
17°	2027.7	2131.9	2350.1	2290.1	1624.4	1246.8	1096.0	1017.5	994.2
18°	1945.6	2063.3	2295.0	2286.4	1604.8	1218.6	1061.7	991.8	969.7
19°	1880.6	1976.2	2239.8	2277.8	1577.8	1191.6	1035.9	973.4	947.7
20°	1786.2	1896.5	2178.5	2274.1	1553.3	1167.1	1011.4	947.7	925.6
21°	1707.7	1820.5	2122.1	2261.9	1536.1	1143.8	993.0	923.1	903.5
22.5°	1604.8	1704.1	2027.7	2238.6	1498.1	1104.6	952.6	899.8	872.9
23°	1592.5	1677.1	2003.2	2231.2	1487.1	1096.0	939.1	886.4	864.3
24°	1515.3	1604.8	1945.6	2207.9	1458.9	1069.0	917.0	870.4	844.7
25°	1472.4	1545.9	1874.5	2185.9	1445.4	1044.5	902.3	849.6	827.5
26°	1412.3	1496.9	1810.7	2154.0	1416.0	1022.4	879.0	831.2	810.3
27°	1368.2	1439.3	1744.5	2130.7	1381.6	999.1	860.6	812.8	787.1
28°	1325.2	1393.9	1680.8	2092.7	1357.1	973.4	847.1	796.9	772.3
29°	1281.1	1341.2	1629.3	2063.3	1333.8	951.3	826.3	776.0	752.7
30°	1244.3	1299.5	1564.3	2024.0	1302.0	925.6	807.9	761.3	740.5
32.5°	1159.7	1206.3	1431.9	1930.9	1225.9	874.1	763.8	720.9	708.6
35°	1088.6	1119.3	1310.5	1826.7	1154.8	818.9	728.2	686.5	680.4
37.5°	1013.9	1043.3	1200.2	1717.5	1080.1	768.7	687.8	660.8	655.9
40°	931.7	970.9	1105.8	1609.7	1005.3	719.6	652.2	631.4	632.6
42.5°	849.6	894.9	1013.9	1483.4	935.4	673.0	617.9	603.2	605.6
45°	757.6	815.3	931.7	1368.2	858.2	628.9	583.5	576.2	576.2
47.5°	662.0	735.6	860.6	1249.2	784.6	584.8	550.4	545.5	548.0
50°	579.9	646.1	780.9	1134.0	714.7	544.3	516.1	514.9	517.3
52.5°	499.0	565.2	711.0	1026.1	643.6	507.5	483.0	483.0	485.5
55°	435.2	486.7	641.2	913.3	576.2	464.6	445.0	448.7	453.6
57.5°	391.1	425.4	572.5	805.4	513.7	423.0	410.7	413.1	419.3
60°	342.0	369.0	505.1	706.1	456.1	382.5	376.4	381.3	387.4
62.5°	297.9	321.2	441.3	616.6	393.5	343.3	340.8	348.2	354.3
65°	262.4	278.3	375.1	525.9	343.3	304.0	302.8	313.8	321.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	225.6	237.8	317.5	440.1	293.0	264.8	264.8	277.1	283.2
70°	191.2	201.1	262.4	362.9	250.1	225.6	226.8	241.5	246.4
72.5°	155.7	164.3	213.3	291.8	202.3	188.8	192.5	204.7	209.6
75°	126.3	132.4	168.0	230.5	161.8	150.8	155.7	166.7	170.4
77.5°	96.8	101.8	123.8	169.2	123.8	117.7	122.6	132.4	132.4
80°	71.1	72.3	88.3	118.9	88.3	84.6	90.7	95.6	95.6
82.5°	46.6	49.0	57.6	76.0	58.8	57.6	60.1	63.7	63.7
85°	27.0	28.2	31.9	41.7	33.1	33.1	35.6	35.6	34.3
87.5°	11.0	12.3	13.5	15.9	14.7	15.9	15.9	13.5	14.7
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	21.50	23.02	21.86	23.34	23.65	21.08	22.60	21.44	22.91	23.23
	3H	22.70	24.07	23.08	24.40	24.76	22.59	23.96	22.97	24.28	24.64
	4H	23.10	24.38	23.50	24.73	25.11	23.12	24.40	23.52	24.75	25.13
	6H	23.35	24.54	23.76	24.90	25.29	23.47	24.65	23.88	25.02	25.41
	8H	23.41	24.54	23.84	24.93	25.33	23.56	24.69	23.99	25.08	25.48
	12H	23.44	24.52	23.88	24.91	25.34	23.62	24.70	24.05	25.08	25.51
4H	2H	22.56	23.84	22.96	24.19	24.57	22.15	23.43	22.55	23.78	24.16
	3H	23.92	24.98	24.33	25.38	25.78	23.77	24.84	24.18	25.24	25.64
	4H	24.38	25.34	24.81	25.75	26.19	24.35	25.31	24.79	25.73	26.17
	6H	24.69	25.53	25.15	25.97	26.43	24.77	25.61	25.23	26.05	26.51
	8H	24.77	25.55	25.23	25.99	26.46	24.89	25.67	25.35	26.11	26.58
	12H	24.82	25.52	25.30	25.99	26.46	24.97	25.66	25.45	26.14	26.61
8H	4H	24.74	25.52	25.20	25.96	26.43	24.69	25.47	25.16	25.92	26.39
	6H	25.14	25.78	25.64	26.27	26.75	25.21	25.86	25.71	26.35	26.83
	8H	25.26	25.84	25.77	26.35	26.83	25.38	25.96	25.89	26.47	26.96
	12H	25.35	25.86	25.86	26.35	26.91	25.50	26.01	26.01	26.51	27.07
12H	4H	24.76	25.46	25.24	25.93	26.40	24.71	25.41	25.19	25.89	26.36
	6H	25.18	25.76	25.70	26.27	26.76	25.26	25.83	25.77	26.34	26.83
	8H	25.35	25.86	25.86	26.35	26.92	25.47	25.98	25.98	26.47	27.04