

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: P735940

Luminaire Tested: S122RDRP-S865D935-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735940  
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-S865D935-X4F0-XX-UDD-W-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

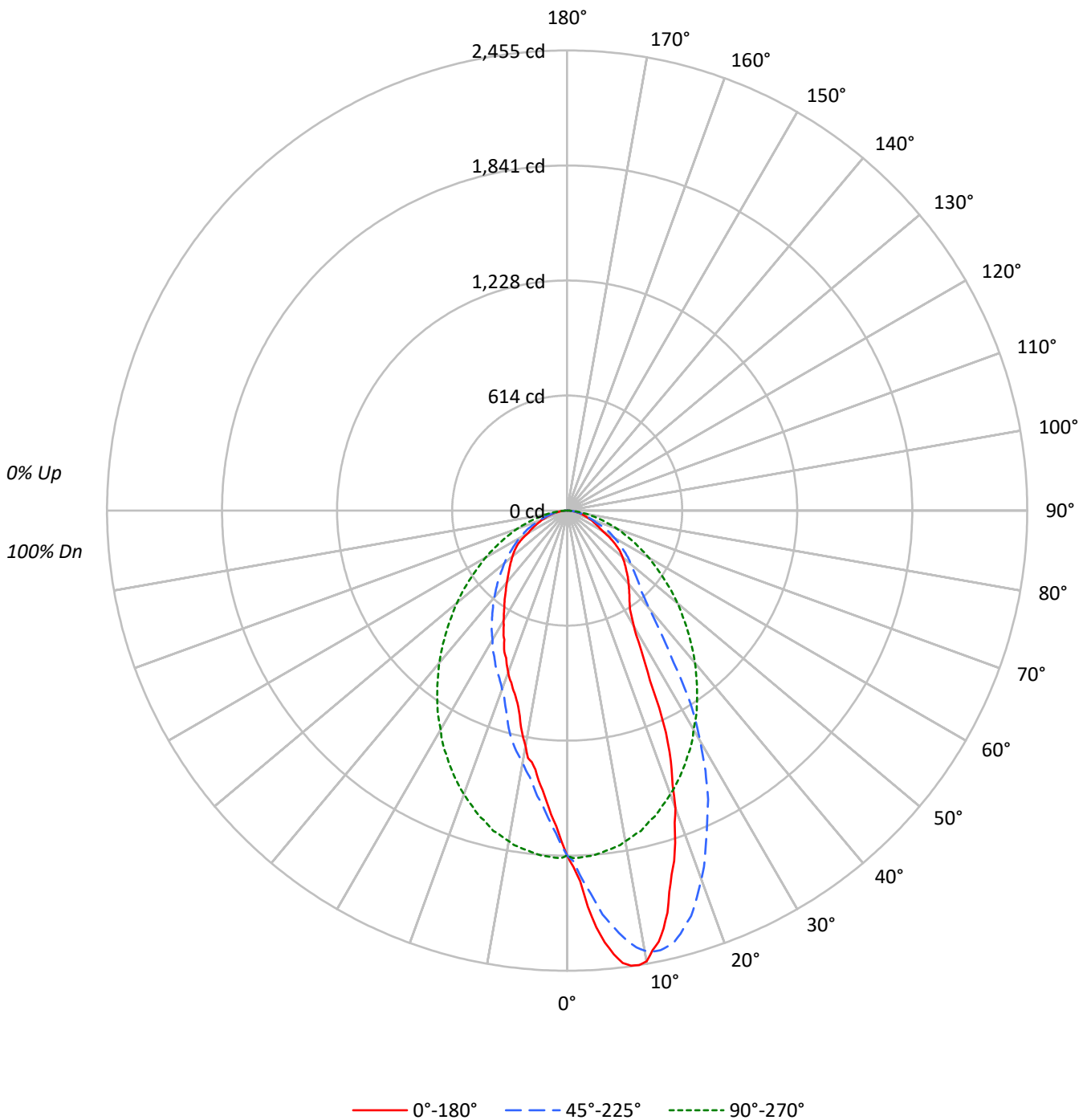
Lumens per Lamp: N/A  
Luminaire Lumens: 3152.8 lumens  
Efficiency: N/A  
Efficacy: 90.1 lumens/watt  
Spacing Criteria (0/90/45): 0.82 / 1.11 / 1  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

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	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°	35367	35367	35367	35367	35367
5°	44617	41736	35502	30165	28884
10°	47661	46538	34962	26691	24942
15°	41920	46523	34038	23933	20785
20°	34558	42820	32953	20776	18806
25°	24640	37592	31632	19242	16918
30°	15765	31532	29934	17656	15028
35°	13579	23237	28376	16383	13631
40°	12799	16990	26625	15158	12521
45°	12091	14556	24753	14045	11819
50°	11513	13268	22995	13068	11381
55°	10566	12272	21022	12014	10975
60°	8338	11187	19310	11271	9272
65°	7550	10015	17510	10465	8455
70°	6963	8081	15916	9014	7772
75°	6491	7315	13888	8050	7315
80°	5999	6608	11755	7228	6608
85°	5359	5866	9020	6352	5866

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 34647 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	178.4	5.7
10°-20°	479.5	15.2
20°-30°	601.5	19.1
30°-40°	573.1	18.2
40°-50°	505.6	16.0
50°-60°	397.7	12.6
60°-70°	253.8	8.0
70°-80°	129.0	4.1
80°-90°	34.2	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°	1259.4	39.9
0°-40°	1832.5	58.1
0°-60°	2735.8	86.8
0°-90°	3152.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3152.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1840	1840	1840	1840	1840	
5°	2312	2163	1840	1563	1497	225
15°	2107	2338	1710	1203	1044	584
25°	1162	1772	1492	907	798	524
35°	579	990	1209	698	581	368
45°	445	536	911	517	435	345
55°	315	366	627	358	328	277
65°	166	220	385	230	186	166
75°	87	98	187	108	98	93
85°	24	27	41	29	27	28
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°	1840.0	1840.0	1840.0	1840.0	1840.0	1840.0	1840.0	1840.0	1840.0
1°	1902.0	1910.8	1869.9	1874.3	1854.4	1819.0	1784.7	1788.0	1763.7
2°	1978.3	2001.5	1945.1	1910.8	1853.3	1791.3	1722.7	1713.9	1684.0
3°	2116.6	2105.5	2012.6	1942.9	1848.8	1755.9	1669.6	1649.7	1624.2
4°	2228.4	2195.2	2081.2	1983.8	1846.6	1715.0	1617.6	1583.3	1557.9
5°	2312.4	2270.4	2163.1	2014.8	1840.0	1691.7	1563.4	1524.7	1497.0
6°	2379.9	2347.8	2216.2	2043.6	1831.1	1657.4	1531.3	1479.3	1450.5
7°	2431.9	2405.4	2270.4	2082.3	1823.4	1623.1	1480.4	1426.2	1391.9
8°	2451.9	2439.7	2320.2	2110.0	1814.5	1598.8	1435.0	1386.4	1355.4
9°	2455.2	2456.3	2360.0	2136.5	1806.8	1554.5	1403.0	1353.2	1336.6
10°	2441.9	2451.9	2384.4	2166.4	1791.3	1532.4	1367.5	1320.0	1277.9
11°	2389.9	2434.2	2396.5	2186.3	1778.0	1497.0	1336.6	1274.6	1232.6
12°	2351.2	2393.2	2397.6	2211.8	1762.5	1480.4	1310.0	1227.0	1182.8
13°	2287.0	2331.3	2386.6	2218.4	1753.7	1439.5	1276.8	1178.3	1124.1
14°	2210.7	2281.5	2368.9	2232.8	1731.6	1404.1	1243.6	1109.8	1077.7
15°	2106.6	2207.3	2337.9	2238.3	1710.5	1379.7	1202.7	1075.5	1044.5
16°	2020.3	2134.3	2295.8	2238.3	1697.3	1346.5	1158.4	1045.6	1014.6
17°	1955.1	2048.0	2261.5	2239.4	1675.1	1323.3	1114.2	1017.9	993.6
18°	1863.2	1967.2	2207.3	2235.0	1651.9	1295.6	1076.6	994.7	964.8
19°	1761.4	1885.4	2149.8	2227.2	1632.0	1266.9	1036.7	970.3	944.9
20°	1689.5	1803.5	2093.4	2215.1	1611.0	1248.1	1015.7	942.7	919.4
21°	1568.9	1708.3	2036.9	2198.5	1588.8	1216.0	986.9	918.3	892.9
22.5°	1446.1	1574.5	1932.9	2170.8	1552.3	1176.1	954.9	888.5	850.8
23°	1398.5	1542.4	1900.8	2163.1	1540.2	1166.2	944.9	875.2	842.0
24°	1296.7	1446.1	1834.5	2138.7	1513.6	1133.0	926.1	848.6	825.4
25°	1161.8	1364.2	1772.5	2113.3	1491.5	1108.6	907.3	827.6	797.7
26°	1009.1	1252.5	1716.1	2082.3	1460.5	1075.5	881.8	807.7	765.7
27°	915.0	1156.2	1639.7	2049.1	1438.4	1051.1	860.8	777.8	747.9
28°	839.8	1004.6	1571.1	2017.0	1411.8	1021.2	846.4	756.8	721.4
29°	757.9	921.7	1490.4	1973.9	1383.0	986.9	823.2	735.8	698.2
30°	710.3	833.1	1420.7	1941.8	1348.7	963.7	795.5	714.8	677.1
32.5°	624.0	687.1	1231.5	1850.0	1283.5	897.3	750.2	657.2	625.1
35°	578.7	611.9	990.3	1742.6	1209.3	842.0	698.2	609.6	580.9
37.5°	544.4	564.3	817.7	1627.6	1134.1	793.3	650.6	565.4	537.7
40°	510.1	525.6	677.1	1516.9	1061.1	745.7	604.1	520.0	499.0
42.5°	479.1	491.3	587.5	1407.4	985.8	697.1	558.7	484.6	465.8
45°	444.8	455.8	535.5	1274.6	910.6	647.3	516.7	445.9	434.8
47.5°	416.0	423.8	485.7	1156.2	836.5	599.7	473.6	414.9	407.2
50°	385.0	395.0	443.7	1024.6	769.0	553.2	437.0	387.3	380.6
52.5°	355.2	359.6	408.3	892.9	698.2	507.9	398.3	359.6	355.2
55°	315.3	333.0	366.2	757.9	627.3	465.8	358.5	330.8	327.5
57.5°	270.0	293.2	328.6	636.2	561.0	419.3	326.4	304.3	289.9
60°	216.9	244.5	291.0	528.9	502.3	377.3	293.2	258.9	241.2
62.5°	190.3	199.2	256.7	442.6	442.6	337.5	260.0	222.4	214.6
65°	166.0	172.6	220.2	366.2	385.0	293.2	230.1	192.5	185.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	144.9	150.5	168.2	305.4	331.9	255.6	190.3	168.2	160.4
70°	123.9	128.3	143.8	248.9	283.2	218.0	160.4	143.8	138.3
72.5°	105.1	109.5	118.4	187.0	232.4	181.5	135.0	122.8	118.4
75°	87.4	89.6	98.5	139.4	187.0	144.9	108.4	100.7	98.5
77.5°	70.8	71.9	77.5	99.6	144.9	110.6	87.4	80.8	79.7
80°	54.2	55.3	59.7	71.9	106.2	79.7	65.3	62.0	59.7
82.5°	38.7	39.8	42.0	48.7	71.9	54.2	46.5	45.4	42.0
85°	24.3	24.3	26.6	29.9	40.9	31.0	28.8	27.7	26.6
87.5°	11.1	11.1	12.2	12.2	18.8	13.3	13.3	12.2	11.1
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	18.82	20.29	19.19	20.61	20.92	21.52	22.99	21.89	23.30	23.62
	3H	19.94	21.25	20.32	21.58	21.94	22.96	24.27	23.34	24.60	24.96
	4H	20.38	21.61	20.78	21.96	22.34	23.46	24.69	23.86	25.04	25.42
	6H	20.73	21.86	21.14	22.23	22.62	23.79	24.92	24.20	25.29	25.68
	8H	20.84	21.92	21.27	22.31	22.71	23.88	24.96	24.31	25.35	25.75
	12H	20.91	21.95	21.35	22.33	22.76	23.93	24.96	24.36	25.34	25.77
4H	2H	19.99	21.22	20.39	21.57	21.95	21.97	23.20	22.37	23.55	23.93
	3H	21.22	22.24	21.63	22.64	23.04	23.63	24.65	24.04	25.05	25.45
	4H	21.70	22.62	22.13	23.03	23.47	24.27	25.18	24.70	25.60	26.04
	6H	22.10	22.90	22.56	23.34	23.80	24.72	25.52	25.18	25.96	26.42
	8H	22.24	22.98	22.70	23.42	23.89	24.85	25.59	25.32	26.04	26.51
	12H	22.33	23.00	22.82	23.48	23.95	24.93	25.59	25.41	26.07	26.55
8H	4H	22.10	22.85	22.57	23.29	23.76	24.38	25.12	24.85	25.57	26.04
	6H	22.59	23.21	23.09	23.70	24.18	24.94	25.55	25.44	26.05	26.53
	8H	22.78	23.33	23.30	23.84	24.33	25.14	25.69	25.66	26.20	26.69
	12H	22.94	23.42	23.45	23.92	24.48	25.29	25.77	25.80	26.27	26.83
12H	4H	22.15	22.81	22.63	23.29	23.76	24.37	25.03	24.85	25.51	25.98
	6H	22.66	23.21	23.18	23.72	24.21	24.94	25.49	25.45	26.00	26.49
	8H	22.90	23.39	23.41	23.88	24.45	25.19	25.67	25.70	26.16	26.73