

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: P735939

Luminaire Tested: S122RDRP-S865D930-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735939  
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-S865D930-X4F0-XX-UDD-W-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

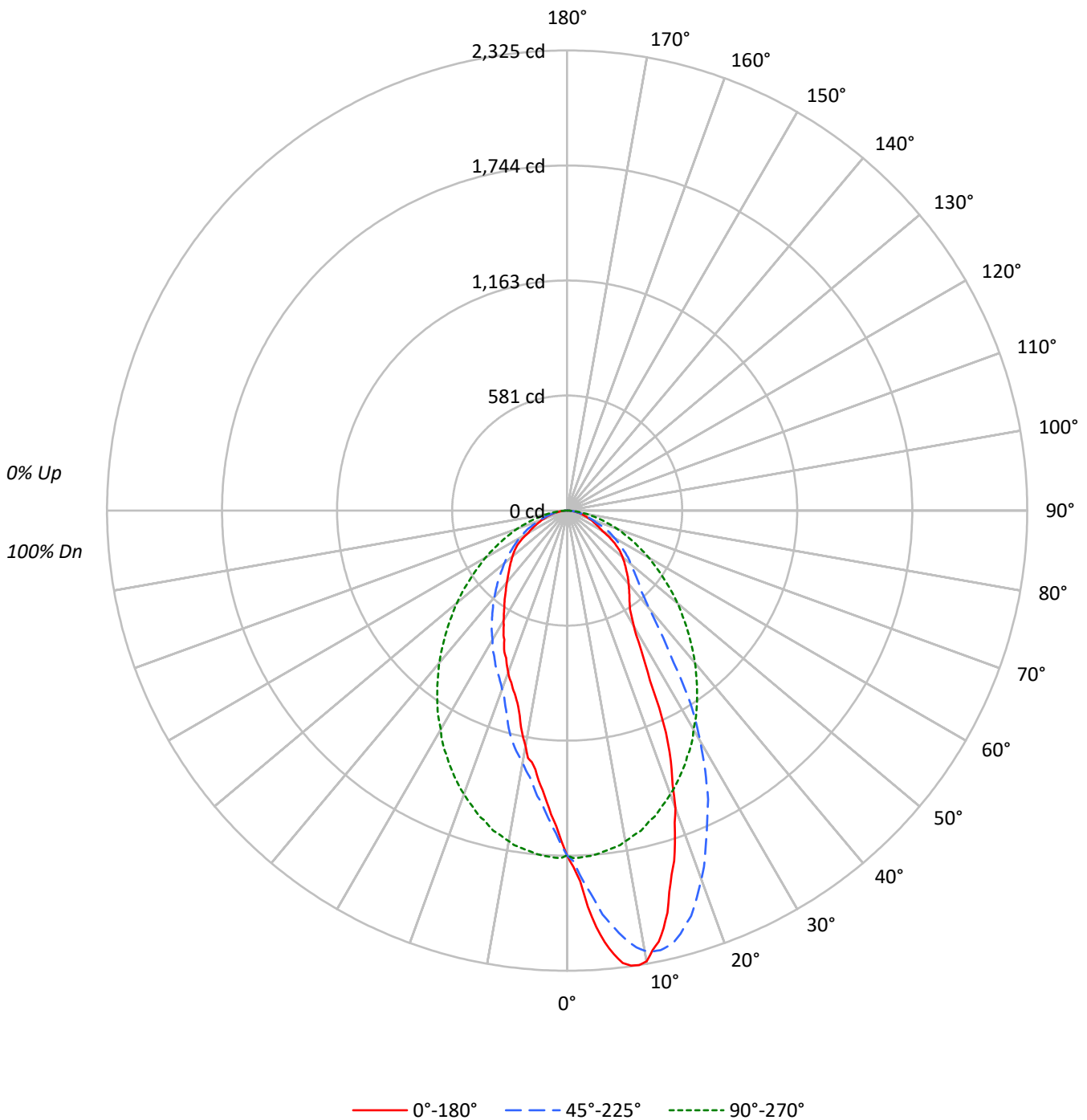
Lumens per Lamp: N/A  
Luminaire Lumens: 2985.4 lumens  
Efficiency: N/A  
Efficacy: 85.3 lumens/watt  
Spacing Criteria (0/90/45): 0.82 / 1.11 / 1  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

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°	33489	33489	33489	33489	33489
5°	42250	39521	33617	28564	27350
10°	45131	44067	33106	25276	23618
15°	39695	44053	32233	22663	19680
20°	32724	40548	31204	19673	17808
25°	23331	35596	29953	18220	16021
30°	14928	29859	28347	16719	14231
35°	12856	22003	26870	15513	12906
40°	12119	16089	25210	14352	11856
45°	11449	13784	23440	13301	11191
50°	10903	12562	21775	12374	10777
55°	10006	11622	19906	11377	10392
60°	7896	10591	18287	10672	8780
65°	7150	9483	16583	9910	8005
70°	6592	7654	15073	8537	7362
75°	6149	6922	13152	7627	6922
80°	5678	6265	11136	6841	6265
85°	5072	5536	8557	5999	5536

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 32810 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	169.0	5.7
10°-20°	454.1	15.2
20°-30°	569.5	19.1
30°-40°	542.7	18.2
40°-50°	478.8	16.0
50°-60°	376.6	12.6
60°-70°	240.3	8.0
70°-80°	122.1	4.1
80°-90°	32.4	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°	1192.6	39.9
0°-40°	1735.2	58.1
0°-60°	2590.6	86.8
0°-90°	2985.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2985.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1742	1742	1742	1742	1742	
5°	2190	2048	1742	1480	1418	213
15°	1995	2214	1620	1139	989	553
25°	1100	1678	1412	859	755	496
35°	548	938	1145	661	550	348
45°	421	507	862	489	412	326
55°	299	347	594	340	310	262
65°	157	208	365	218	176	157
75°	83	93	177	103	93	88
85°	23	25	39	27	25	26
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°	1742.3	1742.3	1742.3	1742.3	1742.3	1742.3	1742.3	1742.3	1742.3
1°	1801.0	1809.4	1770.6	1774.8	1756.0	1722.4	1689.9	1693.1	1670.0
2°	1873.3	1895.3	1841.9	1809.4	1754.9	1696.2	1631.3	1622.9	1594.6
3°	2004.3	1993.8	1905.8	1839.8	1750.7	1662.7	1581.0	1562.1	1538.0
4°	2110.1	2078.6	1970.7	1878.5	1748.6	1623.9	1531.7	1499.3	1475.2
5°	2189.7	2149.9	2048.3	1907.9	1742.3	1601.9	1480.4	1443.7	1417.5
6°	2253.6	2223.2	2098.6	1935.1	1734.0	1569.5	1450.0	1400.8	1373.5
7°	2302.9	2277.7	2149.9	1971.8	1726.6	1537.0	1401.8	1350.5	1318.0
8°	2321.7	2310.2	2197.0	1998.0	1718.2	1513.9	1358.9	1312.8	1283.4
9°	2324.9	2325.9	2234.8	2023.1	1710.9	1472.0	1328.5	1281.3	1265.6
10°	2312.3	2321.7	2257.8	2051.4	1696.2	1451.1	1295.0	1249.9	1210.1
11°	2263.0	2305.0	2269.3	2070.3	1683.7	1417.5	1265.6	1207.0	1167.1
12°	2226.4	2266.2	2270.4	2094.4	1669.0	1401.8	1240.5	1161.9	1120.0
13°	2165.6	2207.5	2259.9	2100.6	1660.6	1363.1	1209.1	1115.8	1064.5
14°	2093.3	2160.4	2243.1	2114.3	1639.7	1329.5	1177.6	1050.8	1020.5
15°	1994.8	2090.2	2213.8	2119.5	1619.8	1306.5	1138.9	1018.4	989.0
16°	1913.1	2021.0	2174.0	2119.5	1607.2	1275.1	1096.9	990.1	960.7
17°	1851.3	1939.3	2141.5	2120.6	1586.2	1253.1	1055.0	963.9	940.8
18°	1764.3	1862.8	2090.2	2116.4	1564.2	1226.9	1019.4	941.9	913.6
19°	1667.9	1785.3	2035.7	2109.0	1545.4	1199.6	981.7	918.8	894.7
20°	1599.8	1707.8	1982.3	2097.5	1525.5	1181.8	961.8	892.6	870.6
21°	1485.6	1617.7	1928.8	2081.8	1504.5	1151.4	934.6	869.6	845.5
22.5°	1369.4	1490.9	1830.3	2055.6	1469.9	1113.7	904.2	841.3	805.7
23°	1324.3	1460.5	1800.0	2048.3	1458.4	1104.3	894.7	828.7	797.3
24°	1227.9	1369.4	1737.1	2025.2	1433.3	1072.9	876.9	803.6	781.6
25°	1100.1	1291.8	1678.4	2001.1	1412.3	1049.8	859.1	783.7	755.4
26°	955.5	1186.0	1625.0	1971.8	1383.0	1018.4	835.0	764.8	725.0
27°	866.5	1094.9	1552.7	1940.4	1362.0	995.3	815.1	736.5	708.2
28°	795.2	951.3	1487.7	1910.0	1336.9	967.0	801.5	716.6	683.1
29°	717.7	872.7	1411.3	1869.1	1309.6	934.6	779.5	696.7	661.1
30°	672.6	788.9	1345.3	1838.7	1277.2	912.6	753.3	676.8	641.2
32.5°	590.9	650.6	1166.1	1751.8	1215.3	849.7	710.3	622.3	592.0
35°	547.9	579.4	937.7	1650.1	1145.1	797.3	661.1	577.3	550.0
37.5°	515.5	534.3	774.3	1541.2	1073.9	751.2	616.1	535.4	509.2
40°	483.0	497.7	641.2	1436.4	1004.7	706.2	572.0	492.4	472.5
42.5°	453.7	465.2	556.3	1332.7	933.5	660.1	529.1	458.9	441.1
45°	421.2	431.7	507.1	1207.0	862.3	612.9	489.3	422.2	411.7
47.5°	393.9	401.3	459.9	1094.9	792.1	567.9	448.4	392.9	385.6
50°	364.6	374.0	420.1	970.2	728.2	523.9	413.8	366.7	360.4
52.5°	336.3	340.5	386.6	845.5	661.1	480.9	377.2	340.5	336.3
55°	298.6	315.4	346.8	717.7	594.0	441.1	339.5	313.3	310.1
57.5°	255.6	277.6	311.2	602.4	531.2	397.1	309.1	288.1	274.5
60°	205.4	231.5	275.5	500.8	475.7	357.3	277.6	245.2	228.4
62.5°	180.2	188.6	243.1	419.1	419.1	319.6	246.2	210.6	203.3
65°	157.2	163.4	208.5	346.8	364.6	277.6	217.9	182.3	176.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	137.2	142.5	159.3	289.2	314.3	242.0	180.2	159.3	151.9
70°	117.3	121.5	136.2	235.7	268.2	206.4	151.9	136.2	131.0
72.5°	99.5	103.7	112.1	177.1	220.0	171.8	127.8	116.3	112.1
75°	82.8	84.9	93.2	132.0	177.1	137.2	102.7	95.3	93.2
77.5°	67.1	68.1	73.3	94.3	137.2	104.8	82.8	76.5	75.4
80°	51.3	52.4	56.6	68.1	100.6	75.4	61.8	58.7	56.6
82.5°	36.7	37.7	39.8	46.1	68.1	51.3	44.0	43.0	39.8
85°	23.0	23.0	25.1	28.3	38.8	29.3	27.2	26.2	25.1
87.5°	10.5	10.5	11.5	11.5	17.8	12.6	12.6	11.5	10.5
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	18.64	20.10	19.00	20.42	20.73	21.33	22.80	21.70	23.11	23.43
	3H	19.75	21.06	20.13	21.39	21.75	22.77	24.08	23.15	24.41	24.78
	4H	20.19	21.42	20.59	21.77	22.15	23.27	24.50	23.67	24.85	25.23
	6H	20.54	21.67	20.95	22.04	22.43	23.60	24.74	24.01	25.10	25.50
	8H	20.65	21.73	21.08	22.12	22.52	23.69	24.77	24.12	25.16	25.56
	12H	20.73	21.76	21.16	22.14	22.57	23.74	24.77	24.17	25.15	25.58
4H	2H	19.80	21.03	20.20	21.38	21.76	21.78	23.01	22.18	23.36	23.74
	3H	21.03	22.05	21.44	22.45	22.85	23.44	24.46	23.85	24.86	25.26
	4H	21.51	22.43	21.94	22.84	23.28	24.08	25.00	24.51	25.41	25.85
	6H	21.91	22.71	22.37	23.15	23.61	24.53	25.33	24.99	25.77	26.23
	8H	22.05	22.79	22.51	23.24	23.70	24.66	25.41	25.13	25.85	26.32
	12H	22.15	22.81	22.63	23.29	23.76	24.74	25.40	25.22	25.88	26.36
8H	4H	21.91	22.66	22.38	23.10	23.57	24.19	24.93	24.66	25.38	25.85
	6H	22.40	23.02	22.90	23.51	23.99	24.75	25.37	25.25	25.86	26.34
	8H	22.59	23.14	23.11	23.65	24.14	24.95	25.50	25.47	26.01	26.50
	12H	22.75	23.24	23.26	23.73	24.29	25.10	25.59	25.61	26.08	26.64
12H	4H	21.96	22.62	22.44	23.10	23.57	24.18	24.84	24.66	25.32	25.79
	6H	22.47	23.02	22.99	23.53	24.02	24.75	25.30	25.27	25.81	26.30
	8H	22.71	23.20	23.23	23.69	24.26	25.00	25.48	25.51	25.97	26.54