

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: P735903

Luminaire Tested: S122RDRP-S1005D930-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735903  
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-S1005D930-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**

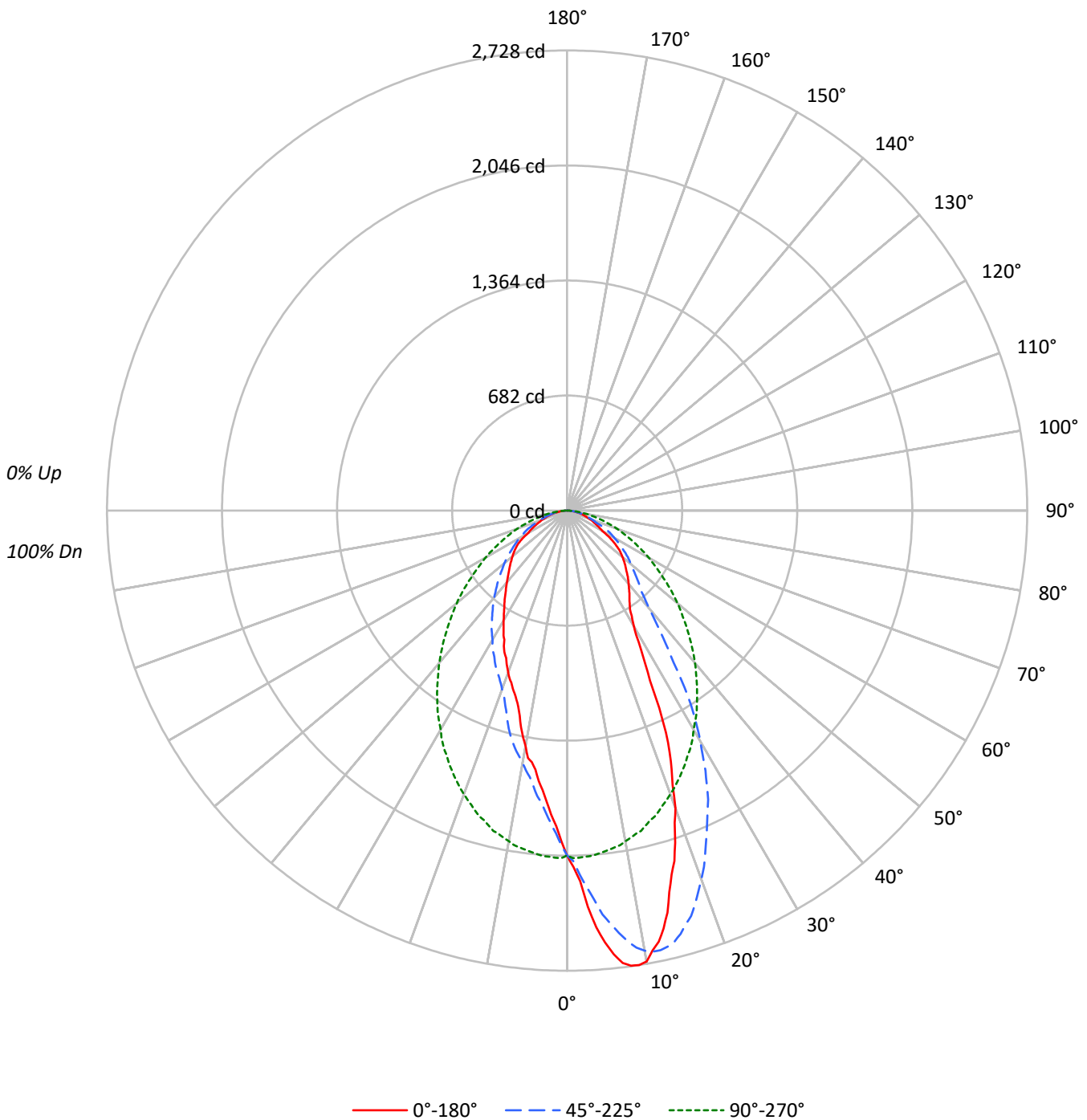
Lumens per Lamp: N/A  
Luminaire Lumens: 3503.7 lumens  
Efficiency: N/A  
Efficacy: 83.8 lumens/watt  
Spacing Criteria (0/90/45): 0.82 / 1.11 / 1  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

Input Watts (W): 41.8  
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°	39304	39304	39304	39304	39304
5°	49584	46381	39454	33523	32099
10°	52965	51718	38854	29663	27719
15°	46586	51700	37827	26597	23097
20°	38406	47586	36620	23089	20901
25°	27382	41776	35153	21384	18801
30°	17521	35041	33268	19622	16702
35°	15090	25823	31534	18206	15147
40°	14222	18881	29588	16846	13913
45°	13437	16177	27506	15608	13135
50°	12795	14745	25555	14524	12649
55°	11742	13639	23364	13351	12198
60°	9265	12432	21459	12525	10303
65°	8387	11129	19461	11634	9396
70°	7739	8981	17692	10020	8638
75°	7211	8125	15432	8949	8125
80°	6664	7350	13062	8025	7350
85°	5977	6506	10035	7057	6506

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 38505 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	198.3	5.7
10°-20°	532.9	15.2
20°-30°	668.4	19.1
30°-40°	636.9	18.2
40°-50°	561.9	16.0
50°-60°	442.0	12.6
60°-70°	282.0	8.0
70°-80°	143.4	4.1
80°-90°	38.0	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°	1399.6	39.9
0°-40°	2036.5	58.1
0°-60°	3040.3	86.8
0°-90°	3503.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3503.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2045	2045	2045	2045	2045	
5°	2570	2404	2045	1737	1664	250
15°	2341	2598	1901	1337	1161	648
25°	1291	1970	1658	1008	886	582
35°	643	1100	1344	776	646	409
45°	494	595	1012	574	483	383
55°	350	407	697	398	364	308
65°	184	245	428	256	207	185
75°	97	109	208	120	109	103
85°	27	30	46	32	30	31
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°	2044.8	2044.8	2044.8	2044.8	2044.8	2044.8	2044.8	2044.8	2044.8
1°	2113.7	2123.5	2078.0	2082.9	2060.8	2021.4	1983.3	1987.0	1960.0
2°	2198.5	2224.3	2161.6	2123.5	2059.6	1990.7	1914.5	1904.6	1871.4
3°	2352.2	2339.9	2236.6	2159.1	2054.6	1951.3	1855.4	1833.3	1805.0
4°	2476.4	2439.5	2312.8	2204.6	2052.2	1905.9	1797.7	1759.5	1731.3
5°	2569.8	2523.1	2403.8	2239.1	2044.8	1880.0	1737.4	1694.4	1663.6
6°	2644.8	2609.2	2462.9	2271.0	2035.0	1841.9	1701.7	1644.0	1612.0
7°	2702.6	2673.1	2523.1	2314.1	2026.4	1803.8	1645.2	1584.9	1546.8
8°	2724.8	2711.2	2578.4	2344.8	2016.5	1776.7	1594.8	1540.7	1506.2
9°	2728.4	2729.7	2622.7	2374.3	2007.9	1727.6	1559.1	1503.8	1485.3
10°	2713.7	2724.8	2649.8	2407.5	1990.7	1703.0	1519.8	1466.9	1420.2
11°	2655.9	2705.1	2663.3	2429.7	1975.9	1663.6	1485.3	1416.5	1369.8
12°	2612.9	2659.6	2664.5	2457.9	1958.7	1645.2	1455.8	1363.6	1314.4
13°	2541.5	2590.7	2652.2	2465.3	1948.9	1599.7	1418.9	1309.5	1249.3
14°	2456.7	2535.4	2632.5	2481.3	1924.3	1560.3	1382.1	1233.3	1197.6
15°	2341.1	2453.0	2598.1	2487.4	1900.9	1533.3	1336.6	1195.2	1160.7
16°	2245.2	2371.9	2551.4	2487.4	1886.2	1496.4	1287.4	1162.0	1127.5
17°	2172.7	2276.0	2513.3	2488.7	1861.6	1470.6	1238.2	1131.2	1104.2
18°	2070.6	2186.2	2453.0	2483.8	1835.8	1439.8	1196.4	1105.4	1072.2
19°	1957.5	2095.2	2389.1	2475.2	1813.6	1407.9	1152.1	1078.3	1050.1
20°	1877.6	2004.2	2326.4	2461.6	1790.3	1387.0	1128.8	1047.6	1021.8
21°	1743.5	1898.5	2263.7	2443.2	1765.7	1351.3	1096.8	1020.6	992.3
22.5°	1607.1	1749.7	2148.1	2412.4	1725.1	1307.0	1061.1	987.4	945.5
23°	1554.2	1714.0	2112.4	2403.8	1711.6	1296.0	1050.1	972.6	935.7
24°	1441.1	1607.1	2038.6	2376.8	1682.1	1259.1	1029.2	943.1	917.3
25°	1291.1	1516.1	1969.8	2348.5	1657.5	1232.0	1008.3	919.7	886.5
26°	1121.4	1391.9	1907.1	2314.1	1623.1	1195.2	980.0	897.6	850.9
27°	1016.9	1284.9	1822.2	2277.2	1598.5	1168.1	956.6	864.4	831.2
28°	933.3	1116.5	1746.0	2241.5	1568.9	1134.9	940.6	841.0	801.7
29°	842.3	1024.2	1656.2	2193.6	1537.0	1096.8	914.8	817.7	775.9
30°	789.4	925.9	1578.8	2157.9	1498.9	1071.0	884.1	794.3	752.5
32.5°	693.5	763.6	1368.5	2055.9	1426.3	997.2	833.7	730.4	694.7
35°	643.1	680.0	1100.5	1936.6	1343.9	935.7	775.9	677.5	645.5
37.5°	605.0	627.1	908.7	1808.7	1260.3	881.6	723.0	628.3	597.6
40°	566.8	584.1	752.5	1685.8	1179.2	828.7	671.4	577.9	554.5
42.5°	532.4	545.9	652.9	1564.0	1095.6	774.6	620.9	538.6	517.7
45°	494.3	506.6	595.1	1416.5	1011.9	719.3	574.2	495.5	483.2
47.5°	462.3	470.9	539.8	1284.9	929.6	666.4	526.3	461.1	452.5
50°	427.9	439.0	493.1	1138.6	854.6	614.8	485.7	430.4	423.0
52.5°	394.7	399.6	453.7	992.3	775.9	564.4	442.7	399.6	394.7
55°	350.4	370.1	407.0	842.3	697.2	517.7	398.4	367.6	364.0
57.5°	300.0	325.8	365.2	707.0	623.4	466.0	362.7	338.1	322.2
60°	241.0	271.7	323.4	587.7	558.2	419.3	325.8	287.7	268.0
62.5°	211.5	221.3	285.3	491.8	491.8	375.0	289.0	247.1	238.5
65°	184.4	191.8	244.7	407.0	427.9	325.8	255.8	213.9	206.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	161.1	167.2	186.9	339.4	368.9	284.0	211.5	186.9	178.3
70°	137.7	142.6	159.8	276.7	314.8	242.2	178.3	159.8	153.7
72.5°	116.8	121.7	131.6	207.8	258.2	201.7	150.0	136.5	131.6
75°	97.1	99.6	109.4	154.9	207.8	161.1	120.5	111.9	109.4
77.5°	78.7	79.9	86.1	110.7	161.1	123.0	97.1	89.8	88.5
80°	60.2	61.5	66.4	79.9	118.0	88.5	72.5	68.9	66.4
82.5°	43.0	44.3	46.7	54.1	79.9	60.2	51.6	50.4	46.7
85°	27.1	27.1	29.5	33.2	45.5	34.4	32.0	30.7	29.5
87.5°	12.3	12.3	13.5	13.5	20.9	14.8	14.8	13.5	12.3
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	19.19	20.66	19.56	20.97	21.29	21.89	23.35	22.25	23.67	23.98
	3H	20.31	21.62	20.68	21.95	22.31	23.33	24.64	23.70	24.97	25.33
	4H	20.75	21.98	21.15	22.33	22.71	23.83	25.06	24.23	25.41	25.79
	6H	21.09	22.23	21.51	22.60	22.99	24.16	25.29	24.57	25.66	26.05
	8H	21.21	22.29	21.63	22.68	23.08	24.24	25.33	24.67	25.72	26.12
	12H	21.28	22.32	21.71	22.70	23.13	24.29	25.33	24.72	25.71	26.14
4H	2H	20.36	21.59	20.76	21.94	22.32	22.34	23.57	22.74	23.92	24.30
	3H	21.59	22.61	22.00	23.01	23.41	24.00	25.01	24.41	25.42	25.82
	4H	22.07	22.98	22.50	23.40	23.84	24.63	25.55	25.07	25.97	26.41
	6H	22.47	23.26	22.93	23.71	24.17	25.09	25.89	25.55	26.33	26.79
	8H	22.60	23.35	23.07	23.79	24.26	25.22	25.96	25.68	26.41	26.87
	12H	22.70	23.36	23.19	23.84	24.32	25.30	25.96	25.78	26.44	26.91
8H	4H	22.47	23.21	22.93	23.66	24.12	24.75	25.49	25.21	25.94	26.40
	6H	22.96	23.57	23.46	24.06	24.54	25.31	25.92	25.81	26.41	26.89
	8H	23.15	23.70	23.66	24.21	24.70	25.51	26.06	26.02	26.57	27.06
	12H	23.31	23.79	23.82	24.29	24.85	25.66	26.14	26.17	26.63	27.20
12H	4H	22.52	23.18	23.00	23.66	24.13	24.74	25.40	25.22	25.88	26.35
	6H	23.03	23.58	23.54	24.09	24.58	25.31	25.86	25.82	26.37	26.86
	8H	23.27	23.76	23.78	24.25	24.82	25.55	26.04	26.06	26.53	27.10