

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: P735899

Luminaire Tested: S122RDRP-S1005D835-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735899  
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-S1005D835-X4F0-XX-UDD-W-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

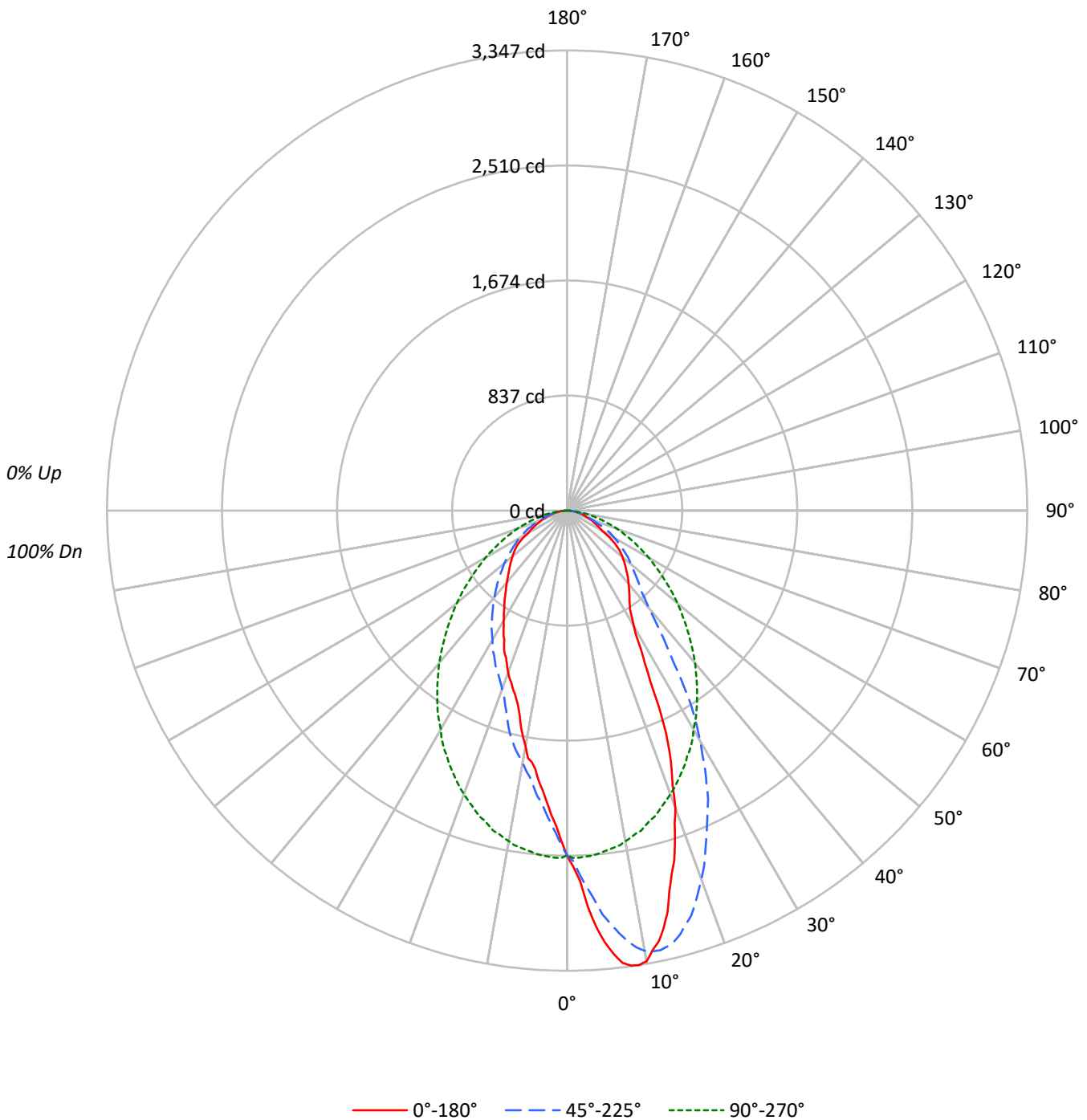
Lumens per Lamp: N/A  
Luminaire Lumens: 4297.4 lumens  
Efficiency: N/A  
Efficacy: 102.8 lumens/watt  
Spacing Criteria (0/90/45): 0.82 / 1.11 / 1  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

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°	48207	48207	48207	48207	48207
5°	60817	56888	48391	41117	39371
10°	64965	63433	47657	36383	33998
15°	57141	63413	46397	32621	28331
20°	47105	58366	44917	28320	25636
25°	33583	51239	43117	26228	23062
30°	21489	42980	40803	24068	20486
35°	18509	31673	38679	22329	18579
40°	17446	23160	36290	20660	17067
45°	16481	19841	33740	19145	16111
50°	15693	18085	31344	17813	15514
55°	14403	16729	28655	16374	14959
60°	11364	15246	26322	15365	12640
65°	10288	13649	23869	14268	11525
70°	9492	11021	21699	12291	10594
75°	8845	9966	18930	10976	9966
80°	8180	9010	16028	9851	9010
85°	7322	7984	12306	8645	7984

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 47228 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	243.2	5.7
10°-20°	653.6	15.2
20°-30°	819.8	19.1
30°-40°	781.2	18.2
40°-50°	689.1	16.0
50°-60°	542.1	12.6
60°-70°	345.9	8.0
70°-80°	175.8	4.1
80°-90°	46.6	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°	1716.7	39.9
0°-40°	2497.8	58.1
0°-60°	3729.0	86.8
0°-90°	4297.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4297.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2508	2508	2508	2508	2508	
5°	3152	2948	2508	2131	2040	306
15°	2872	3187	2332	1639	1424	795
25°	1584	2416	2033	1237	1087	714
35°	789	1350	1648	952	792	502
45°	606	730	1241	704	593	470
55°	430	499	855	489	446	378
65°	226	300	525	314	253	226
75°	119	134	255	148	134	127
85°	33	36	56	39	36	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°	2508.0	2508.0	2508.0	2508.0	2508.0	2508.0	2508.0	2508.0	2508.0
1°	2592.5	2604.6	2548.8	2554.8	2527.6	2479.4	2432.6	2437.2	2404.0
2°	2696.6	2728.2	2651.3	2604.6	2526.1	2441.7	2348.2	2336.1	2295.4
3°	2885.1	2870.0	2743.3	2648.3	2520.1	2393.4	2275.8	2248.6	2213.9
4°	3037.4	2992.1	2836.8	2704.1	2517.1	2337.6	2204.9	2158.1	2123.5
5°	3152.0	3094.7	2948.4	2746.3	2508.0	2305.9	2131.0	2078.2	2040.5
6°	3244.0	3200.3	3020.8	2785.5	2496.0	2259.2	2087.3	2016.4	1977.2
7°	3314.9	3278.7	3094.7	2838.3	2485.4	2212.4	2017.9	1944.0	1897.2
8°	3342.0	3325.4	3162.6	2876.0	2473.3	2179.3	1956.1	1889.7	1847.5
9°	3346.6	3348.1	3216.9	2912.2	2462.8	2118.9	1912.3	1844.5	1821.8
10°	3328.5	3342.0	3250.0	2952.9	2441.7	2088.8	1864.1	1799.2	1741.9
11°	3257.6	3317.9	3266.6	2980.1	2423.6	2040.5	1821.8	1737.4	1680.1
12°	3204.8	3262.1	3268.1	3014.8	2402.5	2017.9	1785.6	1672.5	1612.2
13°	3117.3	3177.6	3253.1	3023.8	2390.4	1962.1	1740.4	1606.2	1532.3
14°	3013.3	3109.8	3228.9	3043.4	2360.2	1913.8	1695.1	1512.7	1468.9
15°	2871.5	3008.7	3186.7	3051.0	2331.6	1880.6	1639.3	1465.9	1423.7
16°	2753.9	2909.2	3129.4	3051.0	2313.5	1835.4	1579.0	1425.2	1383.0
17°	2664.9	2791.6	3082.6	3052.5	2283.3	1803.7	1518.7	1387.5	1354.3
18°	2539.7	2681.5	3008.7	3046.4	2251.7	1766.0	1467.4	1355.8	1315.1
19°	2401.0	2569.9	2930.3	3035.9	2224.5	1726.8	1413.1	1322.6	1288.0
20°	2302.9	2458.3	2853.4	3019.3	2195.9	1701.2	1384.5	1284.9	1253.3
21°	2138.5	2328.6	2776.5	2996.7	2165.7	1657.4	1345.3	1251.8	1217.1
22.5°	1971.1	2146.1	2634.7	2959.0	2115.9	1603.2	1301.5	1211.0	1159.8
23°	1906.3	2102.3	2591.0	2948.4	2099.3	1589.6	1288.0	1192.9	1147.7
24°	1767.5	1971.1	2500.5	2915.2	2063.1	1544.3	1262.3	1156.7	1125.1
25°	1583.5	1859.5	2416.0	2880.5	2033.0	1511.2	1236.7	1128.1	1087.4
26°	1375.4	1707.2	2339.1	2838.3	1990.7	1465.9	1202.0	1100.9	1043.6
27°	1247.2	1576.0	2235.1	2793.1	1960.6	1432.7	1173.3	1060.2	1019.5
28°	1144.7	1369.4	2141.6	2749.3	1924.4	1392.0	1153.7	1031.6	983.3
29°	1033.1	1256.3	2031.5	2690.5	1885.2	1345.3	1122.1	1002.9	951.6
30°	968.2	1135.6	1936.5	2646.8	1838.4	1313.6	1084.4	974.3	923.0
32.5°	850.6	936.6	1678.6	2521.6	1749.4	1223.1	1022.5	895.8	852.1
35°	788.8	834.0	1349.8	2375.3	1648.4	1147.7	951.6	831.0	791.8
37.5°	742.0	769.2	1114.5	2218.5	1545.8	1081.3	886.8	770.7	733.0
40°	695.3	716.4	923.0	2067.7	1446.3	1016.5	823.4	708.8	680.2
42.5°	653.0	669.6	800.8	1918.4	1343.8	950.1	761.6	660.6	634.9
45°	606.3	621.4	729.9	1737.4	1241.2	882.3	704.3	607.8	592.7
47.5°	567.1	577.6	662.1	1576.0	1140.2	817.4	645.5	565.6	555.0
50°	524.8	538.4	604.8	1396.5	1048.2	754.1	595.7	527.8	518.8
52.5°	484.1	490.1	556.5	1217.1	951.6	692.2	542.9	490.1	484.1
55°	429.8	453.9	499.2	1033.1	855.1	634.9	488.6	450.9	446.4
57.5°	368.0	399.7	447.9	867.2	764.6	571.6	444.9	414.7	395.1
60°	295.6	333.3	396.6	720.9	684.7	514.3	399.7	352.9	328.8
62.5°	259.4	271.5	349.9	603.3	603.3	460.0	354.4	303.1	292.6
65°	226.2	235.3	300.1	499.2	524.8	399.7	313.7	262.4	253.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	197.6	205.1	229.2	416.2	452.4	348.4	259.4	229.2	218.7
70°	168.9	174.9	196.1	339.3	386.1	297.1	218.7	196.1	188.5
72.5°	143.3	149.3	161.4	254.9	316.7	247.3	184.0	167.4	161.4
75°	119.1	122.2	134.2	190.0	254.9	197.6	147.8	137.2	134.2
77.5°	96.5	98.0	105.6	135.7	197.6	150.8	119.1	110.1	108.6
80°	73.9	75.4	81.4	98.0	144.8	108.6	89.0	84.5	81.4
82.5°	52.8	54.3	57.3	66.4	98.0	73.9	63.3	61.8	57.3
85°	33.2	33.2	36.2	40.7	55.8	42.2	39.2	37.7	36.2
87.5°	15.1	15.1	16.6	16.6	25.6	18.1	18.1	16.6	15.1
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	19.90	21.37	20.27	21.68	22.00	22.60	24.06	22.96	24.38	24.69
	3H	21.02	22.33	21.39	22.66	23.02	24.04	25.35	24.41	25.68	26.04
	4H	21.46	22.69	21.86	23.04	23.42	24.54	25.77	24.94	26.12	26.50
	6H	21.80	22.94	22.22	23.31	23.70	24.86	26.00	25.28	26.37	26.76
	8H	21.92	23.00	22.34	23.39	23.79	24.95	26.03	25.38	26.42	26.83
	12H	21.99	23.03	22.42	23.41	23.84	25.00	26.04	25.43	26.42	26.85
4H	2H	21.07	22.30	21.47	22.65	23.03	23.05	24.28	23.45	24.63	25.01
	3H	22.30	23.32	22.71	23.72	24.12	24.70	25.72	25.12	26.13	26.53
	4H	22.78	23.69	23.21	24.11	24.55	25.34	26.26	25.78	26.68	27.12
	6H	23.18	23.97	23.64	24.42	24.88	25.80	26.60	26.26	27.04	27.50
	8H	23.31	24.06	23.78	24.50	24.97	25.93	26.67	26.39	27.12	27.58
	12H	23.41	24.07	23.89	24.55	25.03	26.01	26.67	26.49	27.15	27.62
8H	4H	23.18	23.92	23.64	24.37	24.83	25.46	26.20	25.92	26.65	27.11
	6H	23.67	24.28	24.17	24.77	25.25	26.02	26.63	26.52	27.12	27.60
	8H	23.86	24.41	24.37	24.92	25.41	26.22	26.77	26.73	27.28	27.77
	12H	24.02	24.50	24.53	24.99	25.56	26.37	26.85	26.88	27.34	27.91
12H	4H	23.23	23.89	23.71	24.37	24.84	25.45	26.11	25.93	26.59	27.06
	6H	23.74	24.29	24.25	24.80	25.29	26.02	26.57	26.53	27.08	27.57
	8H	23.98	24.47	24.49	24.96	25.52	26.26	26.75	26.77	27.24	27.81