

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: P735856

Luminaire Tested: S122DRP-S1005D850-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735856
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-S1005D850-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

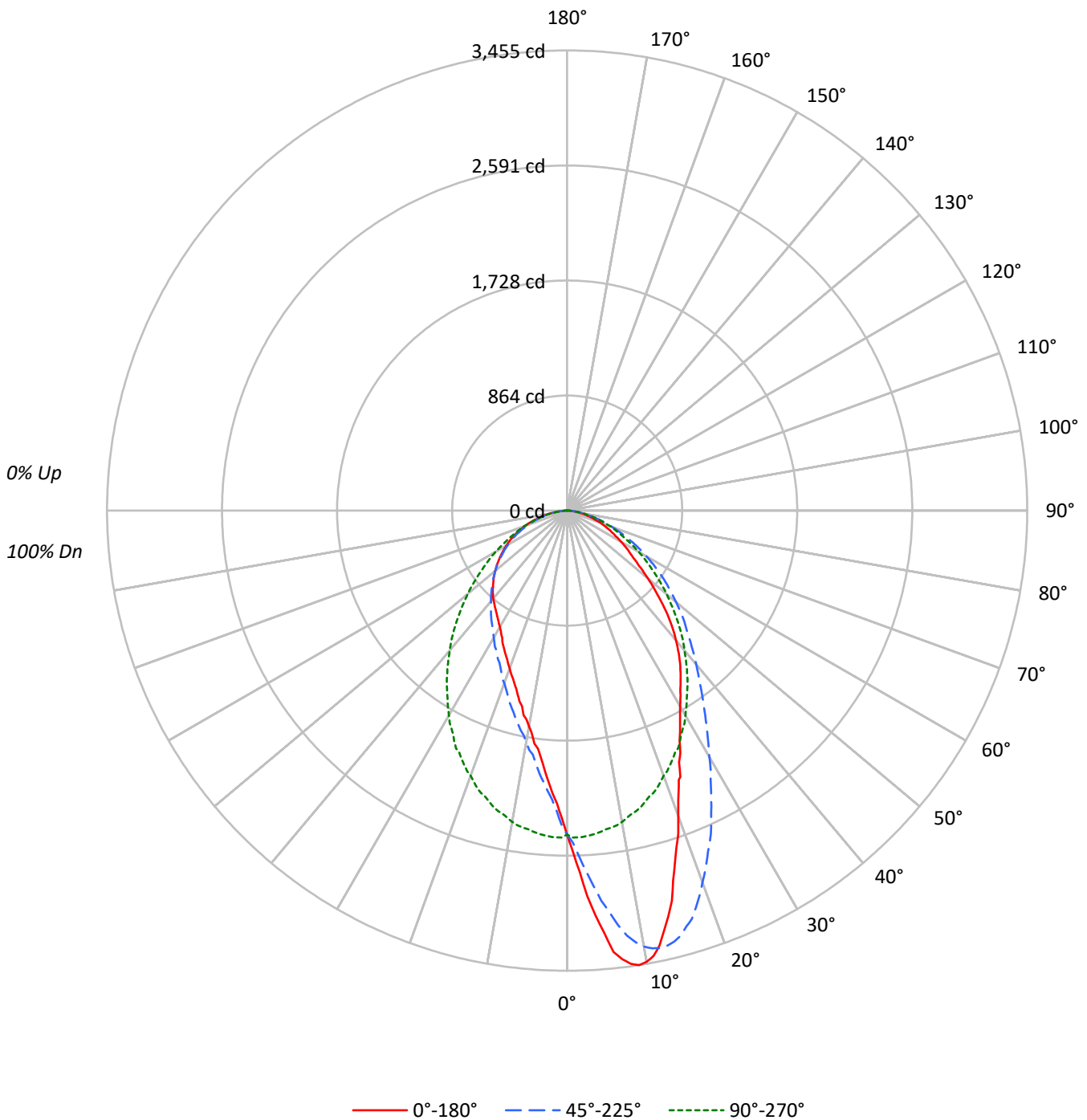
Lumens per Lamp: N/A
Luminaire Lumens: 4951.4 lumens
Efficiency: N/A
Efficacy: 118.5 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

Input Watts (W): 41.8
Input Voltage (V): 120
Input Current (A_{in}): 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°	46775	46775	46775	46775	46775
5°	61347	56699	47019	39435	37629
10°	67149	64897	46322	34472	32122
15°	60406	65731	45064	31119	28490
20°	49846	60794	43346	28224	25830
25°	42601	54236	41821	26107	23944
30°	37678	47366	39422	24463	22421
35°	34850	41953	36969	23312	21782
40°	31894	37853	34413	22327	21654
45°	28096	34552	31826	21640	21369
50°	23656	31859	29158	21055	21106
55°	19896	29312	26343	20345	20737
60°	17937	26491	23919	19740	20317
65°	16278	23277	21299	18788	19930
70°	14662	20114	19175	17388	18894
75°	12796	17014	16398	15774	17267
80°	10737	13327	13327	13704	14445
85°	8116	9593	9968	10696	10321

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 50737 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	239.5	4.8
10°-20°	657.3	13.3
20°-30°	862.0	17.4
30°-40°	911.0	18.4
40°-50°	845.9	17.1
50°-60°	677.0	13.7
60°-70°	463.0	9.4
70°-80°	238.9	4.8
80°-90°	56.8	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°	1758.8	35.5
0°-40°	2669.8	53.9
0°-60°	4192.7	84.7
0°-90°	4951.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4951.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2434	2434	2434	2434	2434	
5°	3180	2939	2437	2044	1950	313
15°	3036	3303	2265	1564	1432	833
25°	2009	2557	1972	1231	1129	926
35°	1485	1788	1576	994	928	927
45°	1034	1271	1171	796	786	794
55°	594	875	786	607	619	544
65°	358	512	468	413	438	355
75°	172	229	221	212	232	183
85°	37	44	45	48	47	45
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°	2433.5	2433.5	2433.5	2433.5	2433.5	2433.5	2433.5	2433.5	2433.5
1°	2567.3	2553.9	2495.4	2498.8	2455.3	2406.8	2361.6	2333.2	2309.8
2°	2717.9	2691.1	2599.1	2553.9	2455.3	2351.6	2257.9	2232.8	2201.0
3°	2900.2	2836.6	2709.5	2602.4	2451.9	2301.4	2172.6	2127.5	2122.4
4°	3047.3	2990.5	2821.5	2652.6	2443.6	2252.9	2107.4	2058.9	2035.5
5°	3179.5	3142.7	2938.6	2716.2	2436.9	2206.1	2043.8	1976.9	1950.2
6°	3331.7	3256.4	3032.3	2779.7	2425.2	2160.9	1987.0	1906.7	1869.9
7°	3393.6	3346.7	3137.7	2821.5	2410.1	2109.1	1915.0	1828.1	1801.3
8°	3437.0	3418.6	3221.3	2890.1	2403.4	2060.5	1851.5	1798.0	1766.2
9°	3455.4	3440.4	3281.5	2918.6	2391.7	2035.5	1819.7	1731.1	1695.9
10°	3440.4	3447.1	3325.0	2962.0	2373.3	1983.6	1766.2	1689.2	1645.8
11°	3405.3	3422.0	3348.4	3012.2	2349.9	1941.8	1717.7	1639.1	1597.3
12°	3338.4	3375.2	3358.4	3047.3	2328.2	1905.0	1684.2	1609.0	1572.2
13°	3234.7	3316.6	3351.7	3062.4	2314.8	1863.2	1642.4	1555.4	1508.6
14°	3141.0	3226.3	3333.3	3095.8	2291.4	1816.4	1604.0	1517.0	1476.8
15°	3035.6	3134.3	3303.2	3105.9	2264.6	1777.9	1563.8	1468.5	1431.7
16°	2888.4	3020.6	3248.0	3117.6	2232.8	1734.4	1527.0	1436.7	1388.2
17°	2766.4	2908.5	3206.2	3124.3	2216.1	1701.0	1495.2	1388.2	1356.4
18°	2654.3	2814.9	3131.0	3119.3	2189.3	1662.5	1448.4	1353.1	1323.0
19°	2565.7	2696.1	3055.7	3107.5	2152.5	1625.7	1413.3	1328.0	1292.9
20°	2436.9	2587.4	2972.1	3102.5	2119.1	1592.2	1379.8	1292.9	1262.8
21°	2329.8	2483.7	2895.1	3085.8	2095.7	1560.5	1354.7	1259.4	1232.7
22.5°	2189.3	2324.8	2766.4	3054.0	2043.8	1506.9	1299.6	1227.6	1190.8
23°	2172.6	2288.0	2732.9	3044.0	2028.8	1495.2	1281.2	1209.2	1179.1
24°	2067.2	2189.3	2654.3	3012.2	1990.3	1458.4	1251.0	1187.5	1152.4
25°	2008.7	2109.1	2557.3	2982.1	1971.9	1425.0	1231.0	1159.1	1129.0
26°	1926.7	2042.2	2470.3	2938.6	1931.8	1394.9	1199.2	1134.0	1105.5
27°	1866.5	1963.5	2380.0	2906.8	1884.9	1363.1	1174.1	1108.9	1073.8
28°	1808.0	1901.7	2293.0	2855.0	1851.5	1328.0	1155.7	1087.1	1053.7
29°	1747.8	1829.7	2222.8	2814.9	1819.7	1297.9	1127.3	1058.7	1026.9
30°	1697.6	1772.9	2134.1	2761.3	1776.2	1262.8	1102.2	1038.6	1010.2
32.5°	1582.2	1645.8	1953.5	2634.2	1672.5	1192.5	1042.0	983.4	966.7
35°	1485.2	1527.0	1787.9	2492.1	1575.5	1117.2	993.5	936.6	928.3
37.5°	1383.2	1423.3	1637.4	2343.2	1473.5	1048.7	938.3	901.5	894.8
40°	1271.1	1324.6	1508.6	2196.0	1371.5	981.8	889.8	861.3	863.0
42.5°	1159.1	1220.9	1383.2	2023.8	1276.1	918.2	843.0	822.9	826.2
45°	1033.6	1112.2	1271.1	1866.5	1170.8	858.0	796.1	786.1	786.1
47.5°	903.2	1003.5	1174.1	1704.3	1070.4	797.8	751.0	744.3	747.6
50°	791.1	881.4	1065.4	1547.1	975.1	742.6	704.1	702.5	705.8
52.5°	680.7	771.0	970.1	1399.9	878.1	692.4	659.0	659.0	662.3
55°	593.7	664.0	874.7	1246.0	786.1	633.9	607.1	612.1	618.8
57.5°	533.5	580.4	781.1	1098.8	700.8	577.0	560.3	563.6	572.0
60°	466.6	503.4	689.1	963.4	622.2	521.8	513.5	520.2	528.5
62.5°	406.4	438.2	602.1	841.3	536.9	468.3	465.0	475.0	483.4
65°	357.9	379.7	511.8	717.5	468.3	414.8	413.1	428.2	438.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	307.7	324.5	433.2	600.4	399.7	361.3	361.3	378.0	386.4
70°	260.9	274.3	357.9	495.1	341.2	307.7	309.4	329.5	336.2
72.5°	212.4	224.1	291.0	398.1	276.0	257.6	262.6	279.3	286.0
75°	172.3	180.6	229.1	314.4	220.8	205.7	212.4	227.5	232.5
77.5°	132.1	138.8	168.9	230.8	168.9	160.6	167.3	180.6	180.6
80°	97.0	98.7	120.4	162.2	120.4	115.4	123.8	130.5	130.5
82.5°	63.6	66.9	78.6	103.7	80.3	78.6	82.0	87.0	87.0
85°	36.8	38.5	43.5	56.9	45.2	45.2	48.5	48.5	46.8
87.5°	15.1	16.7	18.4	21.7	20.1	21.7	21.7	18.4	20.1
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	22.58	24.10	22.94	24.41	24.73	22.16	23.68	22.52	23.99	24.31
	3H	23.78	25.15	24.16	25.48	25.84	23.67	25.03	24.05	25.36	25.72
	4H	24.18	25.46	24.58	25.81	26.19	24.20	25.48	24.59	25.83	26.20
	6H	24.43	25.62	24.84	25.98	26.37	24.55	25.73	24.96	26.10	26.49
	8H	24.49	25.62	24.92	26.01	26.41	24.64	25.77	25.07	26.16	26.56
	12H	24.52	25.60	24.95	25.99	26.42	24.70	25.78	25.13	26.16	26.59
4H	2H	23.64	24.92	24.04	25.27	25.65	23.23	24.51	23.62	24.86	25.23
	3H	25.00	26.06	25.41	26.46	26.86	24.85	25.92	25.26	26.32	26.72
	4H	25.46	26.42	25.89	26.83	27.27	25.43	26.39	25.86	26.81	27.25
	6H	25.77	26.61	26.23	27.05	27.51	25.85	26.69	26.31	27.13	27.59
	8H	25.85	26.63	26.31	27.07	27.54	25.97	26.75	26.43	27.19	27.66
	12H	25.90	26.59	26.38	27.07	27.54	26.05	26.74	26.53	27.22	27.69
8H	4H	25.82	26.60	26.28	27.04	27.51	25.77	26.55	26.24	27.00	27.46
	6H	26.22	26.86	26.71	27.35	27.83	26.29	26.94	26.79	27.43	27.91
	8H	26.34	26.92	26.85	27.43	27.91	26.46	27.04	26.97	27.55	28.03
	12H	26.43	26.94	26.94	27.43	27.99	26.58	27.09	27.09	27.59	28.15
12H	4H	25.84	26.53	26.32	27.01	27.48	25.79	26.49	26.27	26.96	27.44
	6H	26.26	26.84	26.78	27.35	27.84	26.33	26.91	26.85	27.42	27.91
	8H	26.43	26.94	26.94	27.43	28.00	26.55	27.06	27.06	27.55	28.12