

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: P735855

Luminaire Tested: S122DRP-S1005D840-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735855
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-S1005D840-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

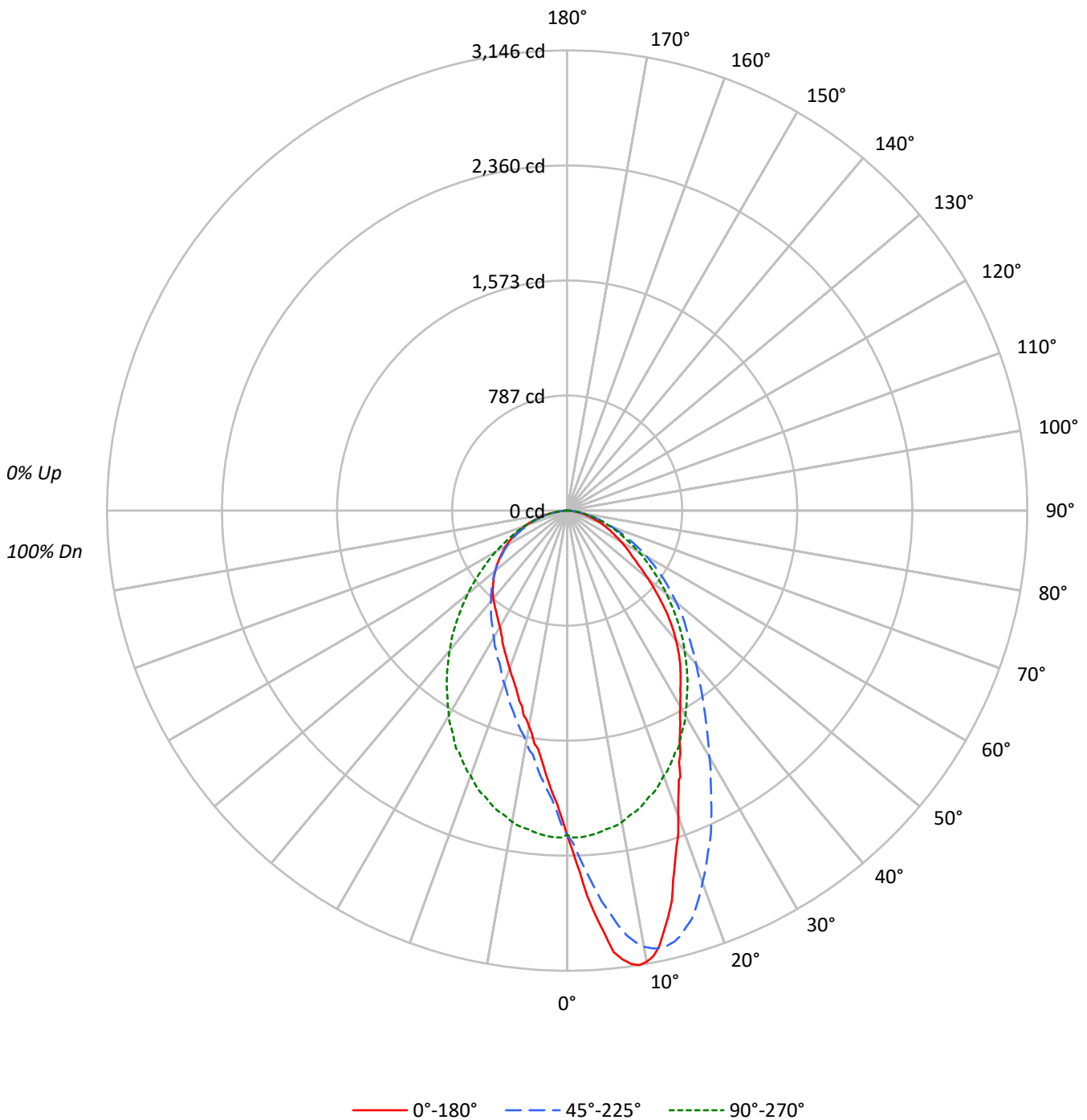
Lumens per Lamp: N/A
Luminaire Lumens: 4508.7 lumens
Efficiency: N/A
Efficacy: 107.9 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

Input Watts (W): 41.8
Input Voltage (V): 120
Input Current (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	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88					86				
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76					74				
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66					64				
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58					56				
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51					49				
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46					44				
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41					39				
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37					35				
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34					32				
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31					30				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	42594	42594	42594	42594	42594
5°	55864	51631	42815	35909	34264
10°	61145	59096	42182	31390	29249
15°	55008	59857	41036	28337	25943
20°	45389	55359	39472	25702	23521
25°	38792	49388	38082	23772	21802
30°	34311	43133	35898	22277	20417
35°	31734	38203	33665	21229	19835
40°	29044	34471	31337	20329	19719
45°	25585	31464	28980	19708	19458
50°	21542	29012	26551	19174	19219
55°	18120	26692	23987	18528	18884
60°	16334	24123	21782	17976	18502
65°	14822	21194	19393	17110	18147
70°	13353	18315	17461	15837	17203
75°	11652	15499	14927	14363	15722
80°	9774	12143	12143	12475	13150
85°	7388	8733	9064	9748	9395

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 46203 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	218.1	4.8
10°-20°	598.5	13.3
20°-30°	784.9	17.4
30°-40°	829.6	18.4
40°-50°	770.3	17.1
50°-60°	616.5	13.7
60°-70°	421.6	9.4
70°-80°	217.6	4.8
80°-90°	51.7	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°	1601.5	35.5
0°-40°	2431.1	53.9
0°-60°	3817.9	84.7
0°-90°	4508.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4508.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2216	2216	2216	2216	2216	
5°	2895	2676	2219	1861	1776	285
15°	2764	3008	2062	1424	1304	759
25°	1829	2329	1796	1121	1028	843
35°	1352	1628	1435	905	845	844
45°	941	1158	1066	725	716	723
55°	541	796	716	553	564	495
65°	326	466	426	376	399	323
75°	157	209	201	193	212	167
85°	34	40	41	44	43	41
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°	2216.0	2216.0	2216.0	2216.0	2216.0	2216.0	2216.0	2216.0	2216.0
1°	2337.8	2325.6	2272.3	2275.4	2235.8	2191.6	2150.5	2124.6	2103.3
2°	2474.9	2450.5	2366.8	2325.6	2235.8	2141.4	2056.1	2033.2	2004.3
3°	2640.9	2583.0	2467.3	2369.8	2232.7	2095.7	1978.4	1937.3	1932.7
4°	2774.9	2723.2	2569.3	2415.5	2225.1	2051.5	1919.0	1874.8	1853.5
5°	2895.3	2861.7	2675.9	2473.4	2219.0	2008.9	1861.1	1800.2	1775.8
6°	3033.8	2965.3	2761.2	2531.3	2208.4	1967.7	1809.3	1736.2	1702.7
7°	3090.2	3047.6	2857.2	2569.3	2194.7	1920.5	1743.9	1664.7	1640.3
8°	3129.8	3113.0	2933.3	2631.8	2188.6	1876.4	1686.0	1637.2	1608.3
9°	3146.5	3132.8	2988.2	2657.7	2177.9	1853.5	1657.0	1576.3	1544.3
10°	3132.8	3138.9	3027.8	2697.3	2161.2	1806.3	1608.3	1538.2	1498.6
11°	3100.9	3116.1	3049.1	2743.0	2139.8	1768.2	1564.1	1492.6	1454.5
12°	3039.9	3073.4	3058.2	2774.9	2120.0	1734.7	1533.7	1465.1	1431.6
13°	2945.5	3020.1	3052.1	2788.6	2107.9	1696.6	1495.6	1416.4	1373.8
14°	2860.2	2937.9	3035.4	2819.1	2086.5	1654.0	1460.6	1381.4	1344.8
15°	2764.3	2854.1	3008.0	2828.2	2062.2	1619.0	1424.0	1337.2	1303.7
16°	2630.2	2750.6	2957.7	2838.9	2033.2	1579.4	1390.5	1308.3	1264.1
17°	2519.1	2648.5	2919.6	2845.0	2018.0	1548.9	1361.6	1264.1	1235.2
18°	2417.0	2563.2	2851.1	2840.4	1993.6	1513.9	1318.9	1232.1	1204.7
19°	2336.3	2455.1	2782.5	2829.8	1960.1	1480.4	1286.9	1209.3	1177.3
20°	2219.0	2356.1	2706.4	2825.2	1929.7	1449.9	1256.5	1177.3	1149.9
21°	2121.6	2261.7	2636.3	2810.0	1908.3	1421.0	1233.6	1146.8	1122.5
22.5°	1993.6	2117.0	2519.1	2781.0	1861.1	1372.2	1183.4	1117.9	1084.4
23°	1978.4	2083.5	2488.6	2771.9	1847.4	1361.6	1166.6	1101.1	1073.7
24°	1882.4	1993.6	2417.0	2743.0	1812.4	1328.1	1139.2	1081.3	1049.4
25°	1829.1	1920.5	2328.7	2715.5	1795.6	1297.6	1120.9	1055.4	1028.0
26°	1754.5	1859.6	2249.5	2675.9	1759.1	1270.2	1092.0	1032.6	1006.7
27°	1699.7	1788.0	2167.3	2647.0	1716.4	1241.3	1069.2	1009.8	977.8
28°	1646.4	1731.7	2088.1	2599.8	1686.0	1209.3	1052.4	990.0	959.5
29°	1591.6	1666.2	2024.1	2563.2	1657.0	1181.9	1026.5	964.1	935.1
30°	1545.9	1614.4	1943.4	2514.5	1617.4	1149.9	1003.7	945.8	919.9
32.5°	1440.8	1498.6	1778.9	2398.7	1523.0	1085.9	948.8	895.5	880.3
35°	1352.4	1390.5	1628.1	2269.3	1434.7	1017.4	904.7	852.9	845.3
37.5°	1259.5	1296.1	1491.0	2133.7	1341.8	954.9	854.4	820.9	814.8
40°	1157.5	1206.2	1373.8	1999.7	1248.9	894.0	810.2	784.4	785.9
42.5°	1055.4	1111.8	1259.5	1842.8	1162.1	836.1	767.6	749.3	752.4
45°	941.2	1012.8	1157.5	1699.7	1066.1	781.3	725.0	715.8	715.8
47.5°	822.4	913.8	1069.2	1552.0	974.7	726.5	683.8	677.7	680.8
50°	720.4	802.6	970.2	1408.8	887.9	676.2	641.2	639.7	642.7
52.5°	619.9	702.1	883.3	1274.8	799.6	630.5	600.1	600.1	603.1
55°	540.7	604.6	796.5	1134.6	715.8	577.2	552.9	557.4	563.5
57.5°	485.8	528.5	711.2	1000.6	638.1	525.4	510.2	513.3	520.9
60°	424.9	458.4	627.5	877.3	566.6	475.2	467.6	473.7	481.3
62.5°	370.1	399.0	548.3	766.1	488.9	426.4	423.4	432.5	440.2
65°	325.9	345.7	466.0	653.4	426.4	377.7	376.2	389.9	399.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	280.2	295.5	394.5	546.8	364.0	329.0	329.0	344.2	351.8
70°	237.6	249.8	325.9	450.8	310.7	280.2	281.8	300.0	306.1
72.5°	193.4	204.1	265.0	362.5	251.3	234.5	239.1	254.3	260.4
75°	156.9	164.5	208.7	286.3	201.0	187.3	193.4	207.1	211.7
77.5°	120.3	126.4	153.8	210.2	153.8	146.2	152.3	164.5	164.5
80°	88.3	89.9	109.7	147.7	109.7	105.1	112.7	118.8	118.8
82.5°	57.9	60.9	71.6	94.4	73.1	71.6	74.6	79.2	79.2
85°	33.5	35.0	39.6	51.8	41.1	41.1	44.2	44.2	42.6
87.5°	13.7	15.2	16.8	19.8	18.3	19.8	19.8	16.8	18.3
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	22.25	23.78	22.62	24.09	24.40	21.83	23.35	22.19	23.67	23.98
	3H	23.46	24.82	23.83	25.15	25.51	23.34	24.71	23.72	25.04	25.40
	4H	23.85	25.14	24.25	25.48	25.86	23.87	25.15	24.27	25.50	25.88
	6H	24.11	25.29	24.52	25.66	26.05	24.22	25.41	24.63	25.77	26.16
	8H	24.17	25.30	24.59	25.69	26.09	24.32	25.45	24.74	25.84	26.24
	12H	24.20	25.28	24.63	25.66	26.09	24.37	25.45	24.80	25.83	26.26
4H	2H	23.31	24.59	23.71	24.94	25.32	22.90	24.18	23.30	24.53	24.91
	3H	24.67	25.74	25.08	26.14	26.54	24.53	25.59	24.94	25.99	26.39
	4H	25.13	26.09	25.57	26.51	26.95	25.11	26.07	25.54	26.48	26.92
	6H	25.45	26.28	25.90	26.72	27.18	25.53	26.36	25.98	26.80	27.26
	8H	25.53	26.30	25.99	26.75	27.22	25.64	26.42	26.11	26.87	27.34
	12H	25.57	26.27	26.06	26.75	27.22	25.72	26.42	26.20	26.89	27.37
8H	4H	25.49	26.27	25.95	26.71	27.18	25.45	26.23	25.91	26.67	27.14
	6H	25.89	26.54	26.39	27.03	27.50	25.97	26.61	26.46	27.10	27.58
	8H	26.01	26.59	26.53	27.10	27.59	26.13	26.71	26.65	27.22	27.71
	12H	26.10	26.61	26.61	27.10	27.67	26.26	26.77	26.77	27.26	27.82
12H	4H	25.51	26.21	25.99	26.69	27.16	25.46	26.16	25.95	26.64	27.11
	6H	25.94	26.52	26.45	27.02	27.51	26.01	26.59	26.52	27.10	27.58
	8H	26.11	26.62	26.62	27.11	27.67	26.23	26.74	26.74	27.23	27.79