

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: P735891

Luminaire Tested: S122DRP-S865D840-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735891
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-S865D840-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

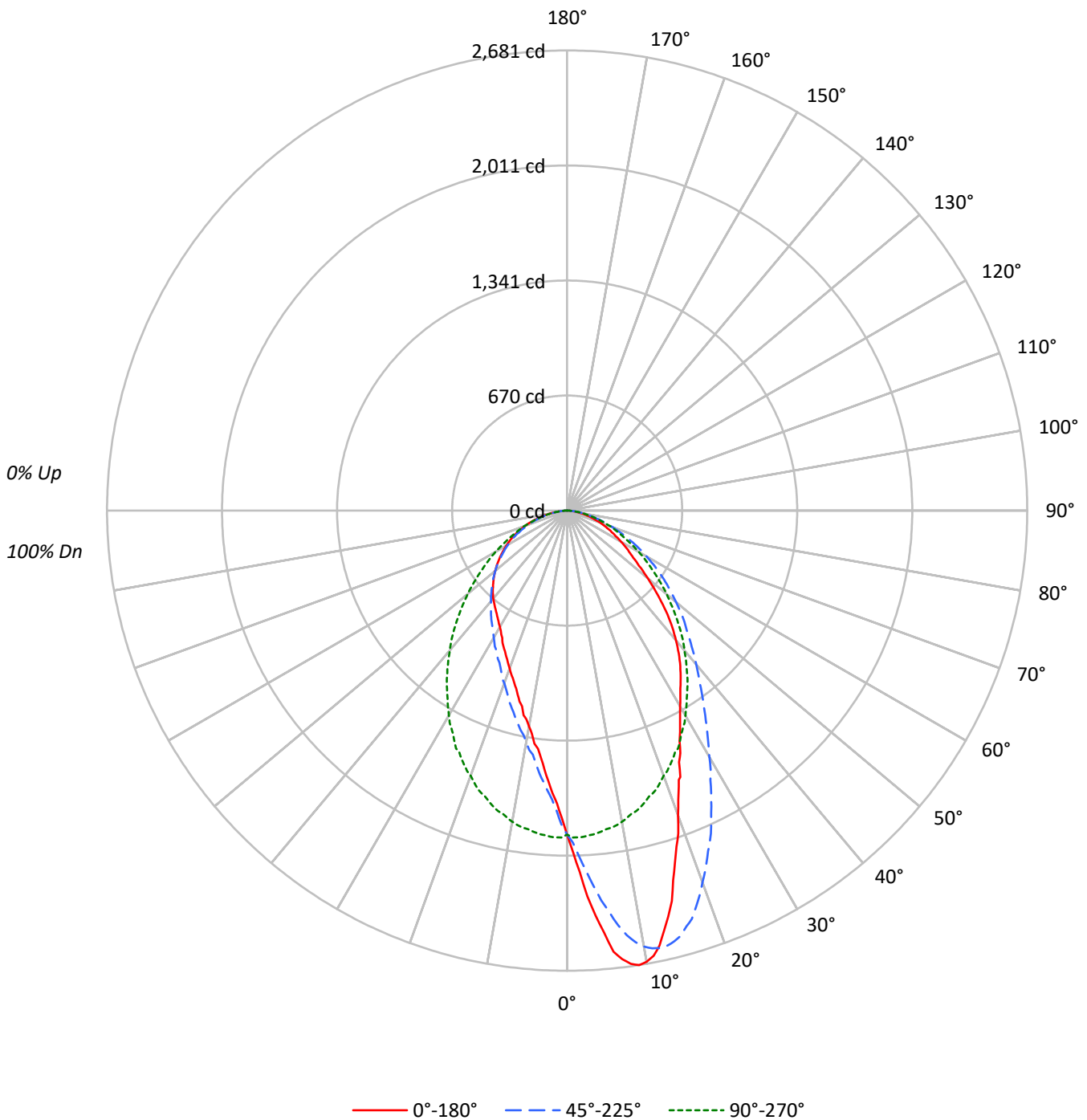
Lumens per Lamp: N/A
Luminaire Lumens: 3841.8 lumens
Efficiency: N/A
Efficacy: 109.8 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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																												
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°	36294	36294	36294	36294	36294
5°	47600	43994	36482	30598	29197
10°	52101	50354	35942	26747	24924
15°	46871	51002	34965	24146	22106
20°	38676	47171	33632	21899	20042
25°	33055	42082	32449	20256	18578
30°	29235	36752	30589	18981	17396
35°	27041	32553	28686	18089	16899
40°	24748	29372	26700	17323	16801
45°	21801	26811	24693	16791	16579
50°	18354	24721	22625	16336	16375
55°	15439	22744	20439	15787	16092
60°	13920	20555	18560	15316	15765
65°	12630	18061	16528	14577	15464
70°	11375	15607	14876	13493	14657
75°	9929	13204	12722	12239	13397
80°	8335	10339	10339	10626	11202
85°	6307	7432	7719	8292	8006

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 39369 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.8	4.8
10°-20°	510.0	13.3
20°-30°	668.8	17.4
30°-40°	706.9	18.4
40°-50°	656.3	17.1
50°-60°	525.3	13.7
60°-70°	359.3	9.4
70°-80°	185.4	4.8
80°-90°	44.0	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°	1364.6	35.5
0°-40°	2071.5	53.9
0°-60°	3253.1	84.7
0°-90°	3841.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3841.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1888	1888	1888	1888	1888	
5°	2467	2280	1891	1586	1513	243
15°	2355	2563	1757	1213	1111	646
25°	1559	1984	1530	955	876	718
35°	1152	1387	1222	771	720	719
45°	802	986	908	618	610	616
55°	461	679	610	471	480	422
65°	278	397	363	320	340	275
75°	134	178	171	165	180	142
85°	29	34	35	38	36	35
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°	1888.2	1888.2	1888.2	1888.2	1888.2	1888.2	1888.2	1888.2	1888.2
1°	1992.0	1981.6	1936.2	1938.8	1905.1	1867.4	1832.4	1810.3	1792.2
2°	2108.8	2088.1	2016.7	1981.6	1905.1	1824.6	1751.9	1732.5	1707.8
3°	2250.3	2201.0	2102.3	2019.3	1902.5	1785.7	1685.8	1650.7	1646.8
4°	2364.5	2320.3	2189.3	2058.2	1896.0	1748.0	1635.1	1597.5	1579.3
5°	2467.0	2438.4	2280.1	2107.5	1890.8	1711.7	1585.8	1533.9	1513.2
6°	2585.1	2526.7	2352.8	2156.8	1881.7	1676.7	1541.7	1479.4	1450.9
7°	2633.1	2596.8	2434.5	2189.3	1870.0	1636.4	1485.9	1418.4	1397.7
8°	2666.8	2652.6	2499.4	2242.5	1864.8	1598.8	1436.6	1395.1	1370.4
9°	2681.1	2669.4	2546.2	2264.5	1855.8	1579.3	1411.9	1343.2	1315.9
10°	2669.4	2674.6	2579.9	2298.3	1841.5	1539.1	1370.4	1310.7	1277.0
11°	2642.2	2655.2	2598.1	2337.2	1823.3	1506.7	1332.8	1271.8	1239.3
12°	2590.3	2618.8	2605.8	2364.5	1806.4	1478.1	1306.8	1248.4	1219.9
13°	2509.8	2573.4	2600.7	2376.1	1796.1	1445.7	1274.4	1206.9	1170.6
14°	2437.1	2503.3	2586.4	2402.1	1777.9	1409.3	1244.5	1177.0	1145.9
15°	2355.4	2432.0	2563.0	2409.9	1757.1	1379.5	1213.4	1139.4	1110.9
16°	2241.2	2343.7	2520.2	2419.0	1732.5	1345.7	1184.8	1114.8	1077.1
17°	2146.5	2256.8	2487.8	2424.2	1719.5	1319.8	1160.2	1077.1	1052.5
18°	2059.5	2184.1	2429.4	2420.3	1698.7	1289.9	1123.8	1049.9	1026.5
19°	1990.7	2091.9	2371.0	2411.2	1670.2	1261.4	1096.6	1030.4	1003.1
20°	1890.8	2007.6	2306.1	2407.3	1644.2	1235.4	1070.6	1003.1	979.8
21°	1807.7	1927.1	2246.4	2394.3	1626.1	1210.8	1051.2	977.2	956.4
22.5°	1698.7	1803.8	2146.5	2369.7	1585.8	1169.3	1008.3	952.5	924.0
23°	1685.8	1775.3	2120.5	2361.9	1574.2	1160.2	994.1	938.3	914.9
24°	1604.0	1698.7	2059.5	2337.2	1544.3	1131.6	970.7	921.4	894.1
25°	1558.6	1636.4	1984.2	2313.9	1530.0	1105.7	955.1	899.3	876.0
26°	1495.0	1584.5	1916.8	2280.1	1498.9	1082.3	930.5	879.9	857.8
27°	1448.3	1523.5	1846.7	2255.5	1462.5	1057.7	911.0	860.4	833.1
28°	1402.8	1475.5	1779.2	2215.2	1436.6	1030.4	896.7	843.5	817.6
29°	1356.1	1419.7	1724.7	2184.1	1411.9	1007.0	874.7	821.5	796.8
30°	1317.2	1375.6	1655.9	2142.6	1378.2	979.8	855.2	805.9	783.8
32.5°	1227.7	1277.0	1515.8	2043.9	1297.7	925.3	808.5	763.1	750.1
35°	1152.4	1184.8	1387.3	1933.6	1222.5	866.9	770.9	726.7	720.2
37.5°	1073.2	1104.4	1270.5	1818.1	1143.3	813.7	728.0	699.5	694.3
40°	986.3	1027.8	1170.6	1703.9	1064.1	761.8	690.4	668.3	669.6
42.5°	899.3	947.3	1073.2	1570.3	990.2	712.5	654.1	638.5	641.1
45°	802.0	863.0	986.3	1448.3	908.4	665.7	617.7	609.9	609.9
47.5°	700.8	778.6	911.0	1322.4	830.5	619.0	582.7	577.5	580.1
50°	613.8	683.9	826.7	1200.4	756.6	576.2	546.3	545.0	547.6
52.5°	528.2	598.3	752.7	1086.2	681.3	537.3	511.3	511.3	513.9
55°	460.7	515.2	678.7	966.8	609.9	491.8	471.1	475.0	480.2
57.5°	414.0	450.3	606.0	852.6	543.8	447.7	434.7	437.3	443.8
60°	362.1	390.6	534.7	747.5	482.8	404.9	398.4	403.6	410.1
62.5°	315.3	340.0	467.2	652.8	416.6	363.4	360.8	368.6	375.0
65°	277.7	294.6	397.1	556.7	363.4	321.8	320.5	332.2	340.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	238.8	251.8	336.1	465.9	310.2	280.3	280.3	293.3	299.8
70°	202.4	212.8	277.7	384.1	264.7	238.8	240.1	255.7	260.8
72.5°	164.8	173.9	225.8	308.9	214.1	199.9	203.7	216.7	221.9
75°	133.7	140.2	177.8	244.0	171.3	159.6	164.8	176.5	180.4
77.5°	102.5	107.7	131.1	179.1	131.1	124.6	129.8	140.2	140.2
80°	75.3	76.6	93.4	125.9	93.4	89.5	96.0	101.2	101.2
82.5°	49.3	51.9	61.0	80.5	62.3	61.0	63.6	67.5	67.5
85°	28.6	29.8	33.7	44.1	35.0	35.0	37.6	37.6	36.3
87.5°	11.7	13.0	14.3	16.9	15.6	16.9	16.9	14.3	15.6
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	21.70	23.22	22.06	23.53	23.85	21.27	22.80	21.64	23.11	23.42
	3H	22.90	24.27	23.28	24.59	24.95	22.79	24.15	23.16	24.48	24.84
	4H	23.30	24.58	23.70	24.93	25.31	23.31	24.60	23.71	24.94	25.32
	6H	23.55	24.73	23.96	25.10	25.49	23.67	24.85	24.08	25.22	25.61
	8H	23.61	24.74	24.04	25.13	25.53	23.76	24.89	24.19	25.28	25.68
	12H	23.64	24.72	24.07	25.10	25.53	23.82	24.89	24.25	25.28	25.71
4H	2H	22.75	24.04	23.15	24.39	24.76	22.34	23.63	22.74	23.97	24.35
	3H	24.12	25.18	24.53	25.58	25.98	23.97	25.03	24.38	25.43	25.84
	4H	24.58	25.54	25.01	25.95	26.39	24.55	25.51	24.98	25.93	26.36
	6H	24.89	25.72	25.35	26.17	26.63	24.97	25.81	25.43	26.25	26.71
	8H	24.97	25.75	25.43	26.19	26.66	25.09	25.87	25.55	26.31	26.78
	12H	25.02	25.71	25.50	26.19	26.66	25.16	25.86	25.65	26.34	26.81
8H	4H	24.93	25.71	25.40	26.16	26.62	24.89	25.67	25.36	26.12	26.58
	6H	25.34	25.98	25.83	26.47	26.95	25.41	26.06	25.91	26.55	27.02
	8H	25.46	26.03	25.97	26.54	27.03	25.58	26.16	26.09	26.66	27.15
	12H	25.54	26.05	26.05	26.55	27.11	25.70	26.21	26.21	26.70	27.27
12H	4H	24.96	25.65	25.44	26.13	26.60	24.91	25.61	25.39	26.08	26.55
	6H	25.38	25.96	25.89	26.47	26.96	25.45	26.03	25.97	26.54	27.03
	8H	25.55	26.06	26.06	26.55	27.12	25.67	26.18	26.18	26.67	27.24