

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: P735890

Luminaire Tested: S122DRP-S865D835-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735890
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-S865D835-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

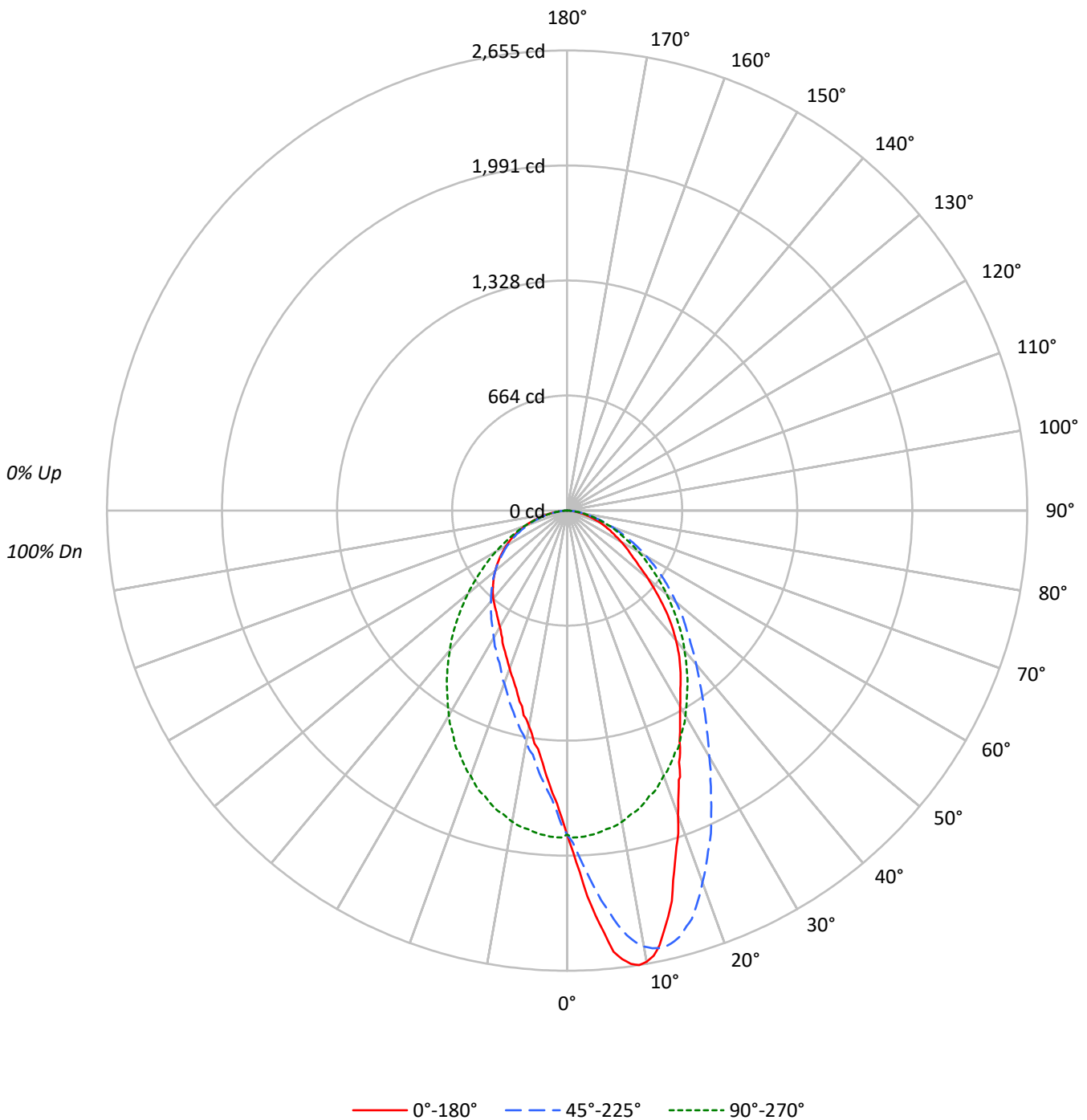
Lumens per Lamp: N/A
Luminaire Lumens: 3804.3 lumens
Efficiency: N/A
Efficacy: 108.7 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

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	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°	35940	35940	35940	35940	35940
5°	47135	43564	36125	30298	28911
10°	51593	49862	35591	26486	24680
15°	46413	50504	34625	23909	21889
20°	38298	46709	33305	21686	19845
25°	32733	41670	32133	20059	18396
30°	28949	36393	30289	18797	17228
35°	26776	32234	28404	17911	16735
40°	24504	29084	26439	17153	16638
45°	21589	26547	24451	16628	16419
50°	18175	24479	22403	16178	16216
55°	15288	22523	20241	15633	15935
60°	13782	20351	18376	15166	15612
65°	12507	17883	16364	14436	15314
70°	11268	15455	14735	13359	14516
75°	9833	13078	12595	12120	13264
80°	8246	10239	10239	10527	11091
85°	6241	7366	7653	8226	7939

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 38983 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.0	4.8
10°-20°	505.0	13.3
20°-30°	662.3	17.4
30°-40°	700.0	18.4
40°-50°	649.9	17.1
50°-60°	520.2	13.7
60°-70°	355.7	9.4
70°-80°	183.6	4.8
80°-90°	43.6	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°	1351.3	35.5
0°-40°	2051.3	53.9
0°-60°	3221.4	84.7
0°-90°	3804.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3804.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1870	1870	1870	1870	1870	
5°	2443	2258	1872	1570	1498	241
15°	2332	2538	1740	1202	1100	640
25°	1543	1965	1515	946	867	711
35°	1141	1374	1210	763	713	712
45°	794	977	900	612	604	610
55°	456	672	604	466	476	418
65°	275	393	360	317	337	273
75°	132	176	170	163	179	141
85°	28	33	35	37	36	34
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°	1869.8	1869.8	1869.8	1869.8	1869.8	1869.8	1869.8	1869.8	1869.8
1°	1972.6	1962.3	1917.3	1919.9	1886.5	1849.2	1814.5	1792.7	1774.7
2°	2088.2	2067.7	1997.0	1962.3	1886.5	1806.8	1734.8	1715.5	1691.1
3°	2228.3	2179.5	2081.8	1999.5	1883.9	1768.2	1669.3	1634.6	1630.7
4°	2341.4	2297.7	2167.9	2038.1	1877.5	1731.0	1619.2	1581.9	1563.9
5°	2442.9	2414.6	2257.8	2086.9	1872.3	1695.0	1570.3	1518.9	1498.4
6°	2559.8	2502.0	2329.8	2135.8	1863.3	1660.3	1526.6	1465.0	1436.7
7°	2607.4	2571.4	2410.8	2167.9	1851.8	1620.5	1471.4	1404.6	1384.0
8°	2640.8	2626.7	2475.0	2220.6	1846.6	1583.2	1422.6	1381.4	1357.0
9°	2654.9	2643.4	2521.3	2242.4	1837.6	1563.9	1398.1	1330.0	1303.0
10°	2643.4	2648.5	2554.7	2275.8	1823.5	1524.1	1357.0	1297.9	1264.5
11°	2616.4	2629.2	2572.7	2314.4	1805.5	1491.9	1319.8	1259.4	1227.2
12°	2565.0	2593.2	2580.4	2341.4	1788.8	1463.7	1294.1	1236.2	1208.0
13°	2485.3	2548.3	2575.3	2352.9	1778.5	1431.6	1261.9	1195.1	1159.1
14°	2413.3	2478.9	2561.1	2378.6	1760.5	1395.6	1232.4	1165.5	1134.7
15°	2332.4	2408.2	2538.0	2386.3	1740.0	1366.0	1201.5	1128.3	1100.0
16°	2219.3	2320.8	2495.6	2395.3	1715.5	1332.6	1173.3	1103.9	1066.6
17°	2125.5	2234.7	2463.5	2400.5	1702.7	1306.9	1148.8	1066.6	1042.2
18°	2039.4	2162.7	2405.6	2396.6	1682.1	1277.3	1112.9	1039.6	1016.5
19°	1971.3	2071.5	2347.8	2387.6	1653.9	1249.1	1085.9	1020.3	993.3
20°	1872.3	1988.0	2283.5	2383.8	1628.2	1223.4	1060.2	993.3	970.2
21°	1790.1	1908.3	2224.4	2370.9	1610.2	1199.0	1040.9	967.6	947.1
22.5°	1682.1	1786.2	2125.5	2346.5	1570.3	1157.8	998.5	943.2	915.0
23°	1669.3	1758.0	2099.8	2338.8	1558.8	1148.8	984.4	929.1	906.0
24°	1588.3	1682.1	2039.4	2314.4	1529.2	1120.6	961.2	912.4	885.4
25°	1543.4	1620.5	1964.8	2291.3	1515.1	1094.9	945.8	890.5	867.4
26°	1480.4	1569.1	1898.0	2257.8	1484.2	1071.7	921.4	871.3	849.4
27°	1434.1	1508.7	1828.6	2233.4	1448.3	1047.3	902.1	852.0	825.0
28°	1389.1	1461.1	1761.8	2193.6	1422.6	1020.3	888.0	835.3	809.6
29°	1342.9	1405.9	1707.8	2162.7	1398.1	997.2	866.1	813.4	789.0
30°	1304.3	1362.2	1639.7	2121.6	1364.7	970.2	846.9	798.0	776.2
32.5°	1215.7	1264.5	1500.9	2024.0	1285.1	916.2	800.6	755.6	742.8
35°	1141.1	1173.3	1373.7	1914.7	1210.5	858.4	763.3	719.6	713.2
37.5°	1062.7	1093.6	1258.1	1800.4	1132.1	805.7	720.9	692.6	687.5
40°	976.6	1017.8	1159.1	1687.3	1053.7	754.3	683.6	661.8	663.1
42.5°	890.5	938.1	1062.7	1554.9	980.5	705.5	647.7	632.2	634.8
45°	794.2	854.6	976.6	1434.1	899.5	659.2	611.7	604.0	604.0
47.5°	693.9	771.0	902.1	1309.5	822.4	613.0	577.0	571.8	574.4
50°	607.8	677.2	818.6	1188.7	749.2	570.6	541.0	539.7	542.3
52.5°	523.0	592.4	745.3	1075.6	674.7	532.0	506.3	506.3	508.9
55°	456.2	510.2	672.1	957.4	604.0	487.0	466.5	470.3	475.5
57.5°	409.9	445.9	600.1	844.3	538.4	443.3	430.5	433.1	439.5
60°	358.5	386.8	529.4	740.2	478.0	400.9	394.5	399.7	406.1
62.5°	312.3	336.7	462.6	646.4	412.5	359.8	357.2	365.0	371.4
65°	275.0	291.7	393.2	551.3	359.8	318.7	317.4	329.0	336.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	236.5	249.3	332.8	461.3	307.1	277.6	277.6	290.4	296.8
70°	200.5	210.7	275.0	380.4	262.2	236.5	237.7	253.2	258.3
72.5°	163.2	172.2	223.6	305.8	212.0	197.9	201.8	214.6	219.7
75°	132.4	138.8	176.1	241.6	169.6	158.1	163.2	174.8	178.6
77.5°	101.5	106.7	129.8	177.3	129.8	123.4	128.5	138.8	138.8
80°	74.5	75.8	92.5	124.7	92.5	88.7	95.1	100.2	100.2
82.5°	48.8	51.4	60.4	79.7	61.7	60.4	63.0	66.8	66.8
85°	28.3	29.6	33.4	43.7	34.7	34.7	37.3	37.3	36.0
87.5°	11.6	12.9	14.1	16.7	15.4	16.7	16.7	14.1	15.4
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	21.66	23.19	22.03	23.50	23.81	21.24	22.76	21.60	23.07	23.39
	3H	22.86	24.23	23.24	24.56	24.92	22.75	24.12	23.13	24.45	24.81
	4H	23.26	24.55	23.66	24.89	25.27	23.28	24.56	23.68	24.91	25.29
	6H	23.51	24.70	23.93	25.07	25.46	23.63	24.82	24.04	25.18	25.57
	8H	23.58	24.71	24.00	25.10	25.50	23.73	24.86	24.15	25.25	25.65
	12H	23.61	24.69	24.04	25.07	25.50	23.78	24.86	24.21	25.24	25.67
4H	2H	22.72	24.00	23.12	24.35	24.73	22.31	23.59	22.71	23.94	24.32
	3H	24.08	25.15	24.49	25.55	25.95	23.94	25.00	24.35	25.40	25.80
	4H	24.54	25.50	24.98	25.92	26.36	24.52	25.48	24.95	25.89	26.33
	6H	24.86	25.69	25.31	26.13	26.59	24.94	25.77	25.39	26.21	26.67
	8H	24.93	25.71	25.40	26.16	26.63	25.05	25.83	25.52	26.28	26.75
	12H	24.98	25.68	25.46	26.16	26.63	25.13	25.83	25.61	26.30	26.78
8H	4H	24.90	25.68	25.36	26.12	26.59	24.86	25.64	25.32	26.08	26.55
	6H	25.30	25.95	25.80	26.44	26.91	25.38	26.02	25.87	26.51	26.99
	8H	25.42	26.00	25.94	26.51	27.00	25.54	26.12	26.06	26.63	27.12
	12H	25.51	26.02	26.02	26.51	27.08	25.67	26.18	26.18	26.67	27.23
12H	4H	24.92	25.62	25.40	26.10	26.57	24.87	25.57	25.36	26.05	26.52
	6H	25.35	25.92	25.86	26.43	26.92	25.42	26.00	25.93	26.51	26.99
	8H	25.52	26.03	26.03	26.52	27.08	25.64	26.15	26.15	26.64	27.20