

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: P735882

Luminaire Tested: S122DRP-S675D840-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735882  
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-S675D840-X4F0-XX-UDD-W-W  
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

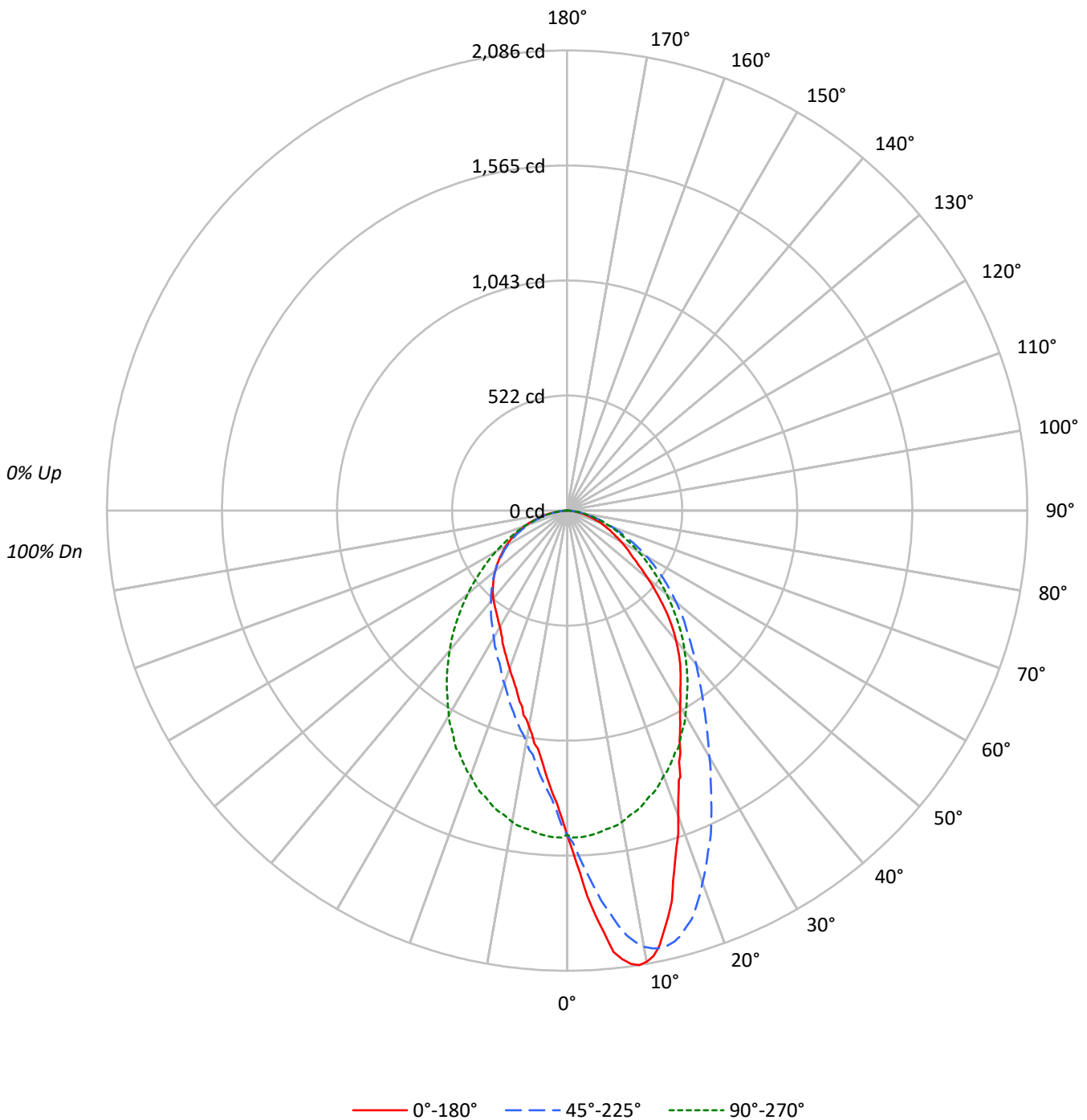
Lumens per Lamp: N/A  
Luminaire Lumens: 2989.6 lumens  
Efficiency: N/A  
Efficacy: 115.0 lumens/watt  
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

Input Watts (W): 26  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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°	28244	28244	28244	28244	28244
5°	37042	34235	28390	23812	22720
10°	40544	39184	27969	20814	19395
15°	36473	39689	27210	18789	17201
20°	30097	36706	26172	17041	15595
25°	25721	32748	25251	15764	14458
30°	22750	28600	23804	14771	13539
35°	21043	25330	22322	14077	13152
40°	19258	22856	20778	13479	13075
45°	16965	20863	19216	13067	12901
50°	14285	19237	17607	12715	12745
55°	12014	17701	15904	12285	12520
60°	10833	15996	14443	11917	12267
65°	9829	14054	12862	11343	12034
70°	8851	12145	11577	10498	11408
75°	7724	10278	9900	9528	10427
80°	6486	8047	8047	8269	8722
85°	4896	5800	6021	6462	6241

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 30635 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	144.6	4.8
10°-20°	396.9	13.3
20°-30°	520.5	17.4
30°-40°	550.1	18.4
40°-50°	510.7	17.1
50°-60°	408.8	13.7
60°-70°	279.6	9.4
70°-80°	144.3	4.8
80°-90°	34.3	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°	1061.9	35.5
0°-40°	1612.0	53.9
0°-60°	2531.5	84.7
0°-90°	2989.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2989.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1469	1469	1469	1469	1469	
5°	1920	1774	1471	1234	1178	189
15°	1833	1994	1367	944	864	503
25°	1213	1544	1191	743	682	559
35°	897	1080	951	600	560	560
45°	624	768	707	481	475	479
55°	358	528	475	367	374	328
65°	216	309	283	249	265	214
75°	104	138	133	128	140	111
85°	22	26	27	29	28	27
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°	1469.4	1469.4	1469.4	1469.4	1469.4	1469.4	1469.4	1469.4	1469.4
1°	1550.1	1542.1	1506.7	1508.7	1482.5	1453.2	1425.9	1408.8	1394.6
2°	1641.0	1624.9	1569.3	1542.1	1482.5	1419.9	1363.3	1348.2	1329.0
3°	1751.1	1712.7	1636.0	1571.3	1480.5	1389.6	1311.8	1284.5	1281.5
4°	1840.0	1805.6	1703.6	1601.6	1475.4	1360.3	1272.4	1243.1	1229.0
5°	1919.8	1897.5	1774.3	1640.0	1471.4	1332.0	1234.1	1193.7	1177.5
6°	2011.7	1966.2	1830.9	1678.4	1464.3	1304.7	1199.7	1151.2	1129.0
7°	2049.0	2020.7	1894.5	1703.6	1455.2	1273.4	1156.3	1103.8	1087.6
8°	2075.3	2064.2	1945.0	1745.0	1451.2	1244.2	1117.9	1085.6	1066.4
9°	2086.4	2077.3	1981.4	1762.2	1444.1	1229.0	1098.7	1045.2	1024.0
10°	2077.3	2081.3	2007.6	1788.5	1433.0	1197.7	1066.4	1020.0	993.7
11°	2056.1	2066.2	2021.7	1818.8	1418.9	1172.5	1037.1	989.7	964.4
12°	2015.7	2037.9	2027.8	1840.0	1405.7	1150.2	1016.9	971.5	949.3
13°	1953.1	2002.6	2023.8	1849.1	1397.7	1125.0	991.7	939.2	910.9
14°	1896.5	1948.0	2012.7	1869.3	1383.5	1096.7	968.5	915.9	891.7
15°	1832.9	1892.5	1994.5	1875.3	1367.4	1073.5	944.2	886.7	864.4
16°	1744.0	1823.8	1961.2	1882.4	1348.2	1047.2	922.0	867.5	838.2
17°	1670.3	1756.2	1935.9	1886.4	1338.1	1027.0	902.8	838.2	819.0
18°	1602.7	1699.6	1890.5	1883.4	1321.9	1003.8	874.5	817.0	798.8
19°	1549.1	1627.9	1845.0	1876.3	1299.7	981.6	853.3	801.8	780.6
20°	1471.4	1562.3	1794.5	1873.3	1279.5	961.4	833.1	780.6	762.4
21°	1406.7	1499.6	1748.1	1863.2	1265.4	942.2	818.0	760.4	744.3
22.5°	1321.9	1403.7	1670.3	1844.0	1234.1	909.9	784.7	741.2	719.0
23°	1311.8	1381.5	1650.1	1838.0	1225.0	902.8	773.6	730.1	712.0
24°	1248.2	1321.9	1602.7	1818.8	1201.7	880.6	755.4	717.0	695.8
25°	1212.8	1273.4	1544.1	1800.6	1190.6	860.4	743.3	699.8	681.7
26°	1163.4	1233.0	1491.6	1774.3	1166.4	842.2	724.1	684.7	667.5
27°	1127.0	1185.6	1437.0	1755.1	1138.1	823.0	708.9	669.5	648.3
28°	1091.7	1148.2	1384.5	1723.8	1117.9	801.8	697.8	656.4	636.2
29°	1055.3	1104.8	1342.1	1699.6	1098.7	783.7	680.6	639.2	620.1
30°	1025.0	1070.5	1288.6	1667.3	1072.5	762.4	665.5	627.1	610.0
32.5°	955.3	993.7	1179.5	1590.5	1009.9	720.0	629.1	593.8	583.7
35°	896.8	922.0	1079.5	1504.7	951.3	674.6	599.9	565.5	560.5
37.5°	835.2	859.4	988.7	1414.8	889.7	633.2	566.5	544.3	540.3
40°	767.5	799.8	910.9	1326.0	828.1	592.8	537.2	520.1	521.1
42.5°	699.8	737.2	835.2	1221.9	770.5	554.4	509.0	496.9	498.9
45°	624.1	671.6	767.5	1127.0	706.9	518.1	480.7	474.6	474.6
47.5°	545.3	605.9	708.9	1029.1	646.3	481.7	453.4	449.4	451.4
50°	477.7	532.2	643.3	934.1	588.8	448.4	425.2	424.1	426.2
52.5°	411.0	465.5	585.7	845.3	530.2	418.1	397.9	397.9	399.9
55°	358.5	400.9	528.2	752.3	474.6	382.7	366.6	369.6	373.6
57.5°	322.1	350.4	471.6	663.5	423.1	348.4	338.3	340.3	345.4
60°	281.8	304.0	416.1	581.7	375.7	315.1	310.0	314.1	319.1
62.5°	245.4	264.6	363.6	508.0	324.2	282.8	280.7	286.8	291.9
65°	216.1	229.2	309.0	433.2	282.8	250.4	249.4	258.5	264.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	185.8	195.9	261.6	362.5	241.4	218.1	218.1	228.2	233.3
70°	157.5	165.6	216.1	298.9	206.0	185.8	186.8	198.9	203.0
72.5°	128.3	135.3	175.7	240.3	166.6	155.5	158.5	168.6	172.7
75°	104.0	109.1	138.4	189.9	133.3	124.2	128.3	137.3	140.4
77.5°	79.8	83.8	102.0	139.4	102.0	96.9	101.0	109.1	109.1
80°	58.6	59.6	72.7	98.0	72.7	69.7	74.7	78.8	78.8
82.5°	38.4	40.4	47.5	62.6	48.5	47.5	49.5	52.5	52.5
85°	22.2	23.2	26.3	34.3	27.3	27.3	29.3	29.3	28.3
87.5°	9.1	10.1	11.1	13.1	12.1	13.1	13.1	11.1	12.1
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	20.83	22.35	21.19	22.66	22.98	20.40	21.92	20.77	22.24	22.55
	3H	22.03	23.39	22.41	23.72	24.08	21.91	23.28	22.29	23.61	23.97
	4H	22.43	23.71	22.83	24.06	24.44	22.44	23.72	22.84	24.07	24.45
	6H	22.68	23.86	23.09	24.23	24.62	22.79	23.98	23.21	24.35	24.74
	8H	22.74	23.87	23.17	24.26	24.66	22.89	24.02	23.32	24.41	24.81
	12H	22.77	23.85	23.20	24.23	24.66	22.94	24.02	23.37	24.41	24.83
4H	2H	21.88	23.17	22.28	23.51	23.89	21.47	22.75	21.87	23.10	23.48
	3H	23.24	24.31	23.65	24.71	25.11	23.10	24.16	23.51	24.56	24.96
	4H	23.71	24.67	24.14	25.08	25.52	23.68	24.64	24.11	25.05	25.49
	6H	24.02	24.85	24.48	25.30	25.76	24.10	24.93	24.56	25.38	25.84
	8H	24.10	24.88	24.56	25.32	25.79	24.22	25.00	24.68	25.44	25.91
	12H	24.15	24.84	24.63	25.32	25.79	24.29	24.99	24.77	25.47	25.94
8H	4H	24.06	24.84	24.53	25.29	25.75	24.02	24.80	24.48	25.24	25.71
	6H	24.47	25.11	24.96	25.60	26.08	24.54	25.18	25.04	25.67	26.15
	8H	24.59	25.16	25.10	25.67	26.16	24.71	25.28	25.22	25.79	26.28
	12H	24.67	25.18	25.18	25.67	26.24	24.83	25.34	25.34	25.83	26.40
12H	4H	24.09	24.78	24.57	25.26	25.73	24.04	24.73	24.52	25.21	25.68
	6H	24.51	25.09	25.02	25.60	26.09	24.58	25.16	25.09	25.67	26.16
	8H	24.68	25.19	25.19	25.68	26.25	24.80	25.31	25.31	25.80	26.37