

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: P735887

Luminaire Tested: S122DRP-S675D940-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735887  
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-S675D940-X4F0-XX-UDD-W-W  
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

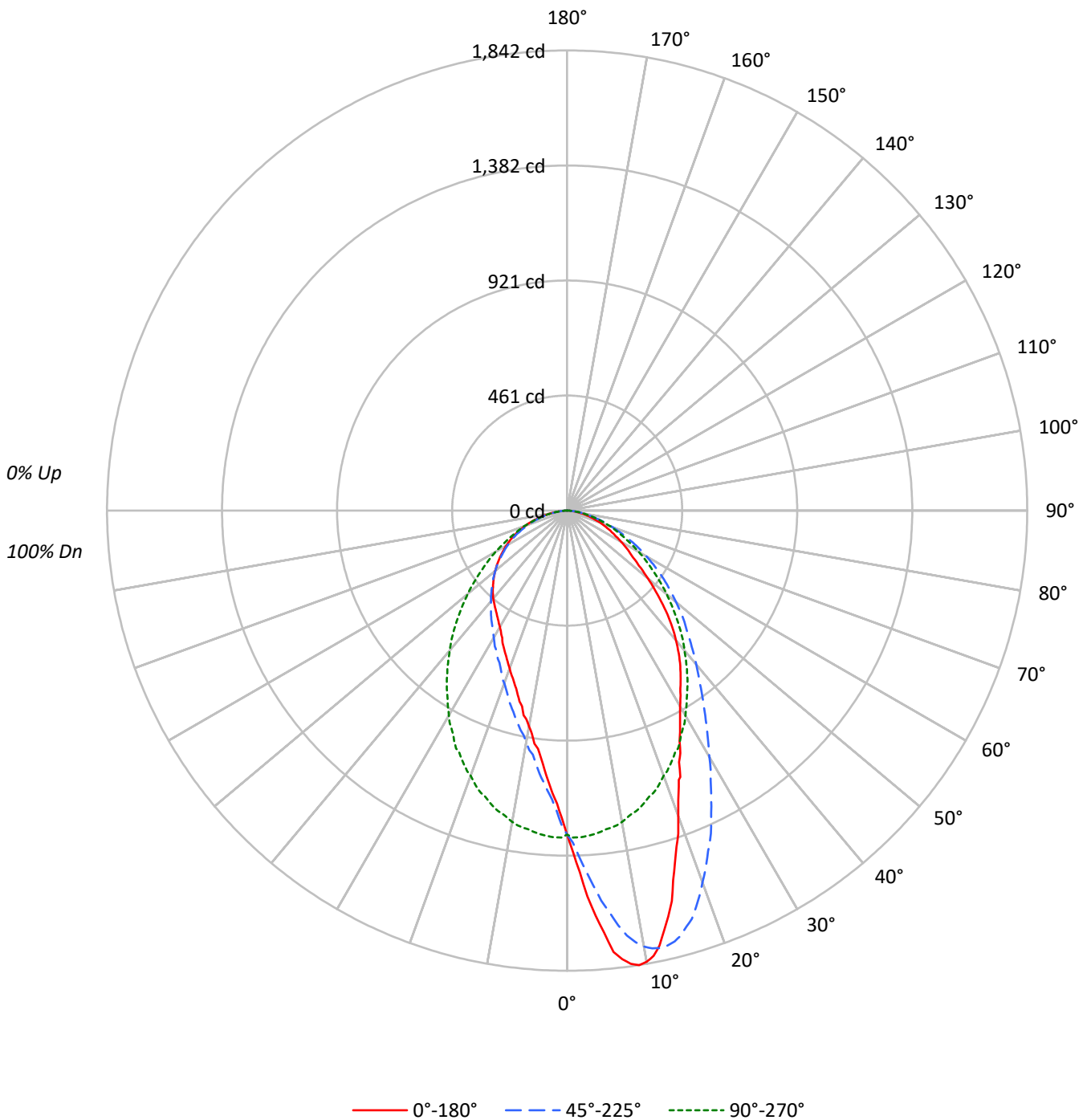
Lumens per Lamp: N/A  
Luminaire Lumens: 2639.8 lumens  
Efficiency: N/A  
Efficacy: 101.5 lumens/watt  
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

Input Watts (W): 26  
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

TEST NUMBER: P735887

CATALOG NUMBER: S122DRP-S675D940-X4F0-XX-UDD-W-W

### 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	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°	24938	24938	24938	24938	24938
5°	32706	30229	25068	21025	20061
10°	35800	34599	24696	18378	17125
15°	32207	35045	24026	16590	15189
20°	26575	32413	23110	15049	13770
25°	22712	28915	22296	13919	12765
30°	20089	25253	21018	13042	11954
35°	18579	22367	19710	12429	11613
40°	17005	20181	18347	11903	11545
45°	14981	18422	16968	11539	11392
50°	12613	16985	15547	11226	11252
55°	10610	15630	14045	10848	11055
60°	9565	14124	12751	10526	10833
65°	8678	12412	11357	10020	10624
70°	7817	10723	10223	9273	10071
75°	6818	9075	8741	8407	9201
80°	5723	7106	7106	7306	7704
85°	4323	5117	5315	5712	5513

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 27050 cd/sqm



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CATALOG NUMBER: S122DRP-S675D940-X4F0-XX-UDD-W-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.7	4.8
10°-20°	350.4	13.3
20°-30°	459.6	17.4
30°-40°	485.7	18.4
40°-50°	451.0	17.1
50°-60°	360.9	13.7
60°-70°	246.9	9.4
70°-80°	127.4	4.8
80°-90°	30.3	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°	937.7	35.5
0°-40°	1423.4	53.9
0°-60°	2235.3	84.7
0°-90°	2639.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2639.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1297	1297	1297	1297	1297	
5°	1695	1567	1299	1090	1040	167
15°	1618	1761	1207	834	763	444
25°	1071	1363	1051	656	602	494
35°	792	953	840	530	495	494
45°	551	678	624	424	419	423
55°	317	466	419	324	330	290
65°	191	273	250	220	234	189
75°	92	122	118	113	124	98
85°	20	23	24	26	25	24
90°	0	0	0	0	0	



TEST NUMBER: P735887

CATALOG NUMBER: S122DRP-S675D940-X4F0-XX-UDD-W-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4	1297.4
1°	1368.8	1361.6	1330.4	1332.2	1309.0	1283.2	1259.1	1243.9	1231.5
2°	1449.0	1434.8	1385.7	1361.6	1309.0	1253.7	1203.8	1190.4	1173.5
3°	1546.2	1512.3	1444.6	1387.5	1307.2	1227.0	1158.3	1134.3	1131.6
4°	1624.7	1594.4	1504.3	1414.3	1302.8	1201.1	1123.6	1097.7	1085.2
5°	1695.1	1675.5	1566.7	1448.1	1299.2	1176.2	1089.7	1054.0	1039.7
6°	1776.3	1736.2	1616.7	1482.0	1293.0	1152.1	1059.4	1016.5	996.9
7°	1809.3	1784.3	1672.8	1504.3	1285.0	1124.4	1021.0	974.6	960.4
8°	1832.5	1822.7	1717.4	1540.9	1281.4	1098.6	987.1	958.6	941.6
9°	1842.3	1834.2	1749.5	1556.0	1275.1	1085.2	970.2	922.9	904.2
10°	1834.2	1837.8	1772.7	1579.2	1265.3	1057.6	941.6	900.6	877.4
11°	1815.5	1824.4	1785.2	1606.0	1252.9	1035.3	915.8	873.9	851.6
12°	1779.9	1799.5	1790.6	1624.7	1241.3	1015.7	898.0	857.8	838.2
13°	1724.6	1768.3	1787.0	1632.7	1234.1	993.4	875.7	829.3	804.3
14°	1674.6	1720.1	1777.2	1650.6	1221.6	968.4	855.1	808.8	787.4
15°	1618.5	1671.1	1761.1	1655.9	1207.4	947.9	833.7	782.9	763.3
16°	1540.0	1610.4	1731.7	1662.1	1190.4	924.7	814.1	766.0	740.1
17°	1474.9	1550.7	1709.4	1665.7	1181.5	906.9	797.2	740.1	723.2
18°	1415.1	1500.7	1669.3	1663.0	1167.2	886.4	772.2	721.4	705.3
19°	1367.9	1437.4	1629.2	1656.8	1147.6	866.7	753.5	708.0	689.3
20°	1299.2	1379.5	1584.6	1654.1	1129.8	848.9	735.7	689.3	673.2
21°	1242.2	1324.2	1543.5	1645.2	1117.3	832.0	722.3	671.5	657.2
22.5°	1167.2	1239.5	1474.9	1628.3	1089.7	803.4	692.9	654.5	634.9
23°	1158.3	1219.9	1457.1	1622.9	1081.6	797.2	683.0	644.7	628.7
24°	1102.2	1167.2	1415.1	1606.0	1061.1	777.6	667.0	633.1	614.4
25°	1070.9	1124.4	1363.4	1589.9	1051.3	759.7	656.3	618.0	601.9
26°	1027.2	1088.8	1317.1	1566.7	1029.9	743.7	639.4	604.6	589.4
27°	995.1	1046.9	1268.9	1549.8	1005.0	726.7	626.0	591.2	572.5
28°	963.9	1013.9	1222.5	1522.1	987.1	708.0	616.2	579.6	561.8
29°	931.8	975.5	1185.1	1500.7	970.2	692.0	601.0	564.5	547.5
30°	905.1	945.2	1137.8	1472.2	947.0	673.2	587.6	553.8	538.6
32.5°	843.6	877.4	1041.5	1404.4	891.7	635.8	555.5	524.3	515.4
35°	791.8	814.1	953.2	1328.6	840.0	595.7	529.7	499.4	494.9
37.5°	737.4	758.8	873.0	1249.3	785.6	559.1	500.2	480.6	477.1
40°	677.7	706.2	804.3	1170.8	731.2	523.4	474.4	459.2	460.1
42.5°	618.0	650.9	737.4	1079.0	680.4	489.5	449.4	438.7	440.5
45°	551.1	593.0	677.7	995.1	624.2	457.4	424.5	419.1	419.1
47.5°	481.5	535.0	626.0	908.7	570.7	425.3	400.4	396.8	398.6
50°	421.8	469.9	568.0	824.8	519.9	395.9	375.4	374.5	376.3
52.5°	362.9	411.1	517.2	746.4	468.1	369.2	351.3	351.3	353.1
55°	316.6	354.0	466.4	664.3	419.1	338.0	323.7	326.4	329.9
57.5°	284.5	309.4	416.4	585.9	373.6	307.6	298.7	300.5	305.0
60°	248.8	268.4	367.4	513.6	331.7	278.2	273.8	277.3	281.8
62.5°	216.7	233.6	321.0	448.5	286.2	249.7	247.9	253.2	257.7
65°	190.8	202.4	272.9	382.5	249.7	221.1	220.3	228.3	233.6



TEST NUMBER: P735887

CATALOG NUMBER: S122DRP-S675D940-X4F0-XX-UDD-W-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	164.1	173.0	231.0	320.1	213.1	192.6	192.6	201.5	206.0
70°	139.1	146.2	190.8	263.9	181.9	164.1	165.0	175.7	179.2
72.5°	113.2	119.5	155.2	212.2	147.1	137.3	140.0	148.9	152.5
75°	91.8	96.3	122.2	167.6	117.7	109.7	113.2	121.3	123.9
77.5°	70.4	74.0	90.1	123.1	90.1	85.6	89.2	96.3	96.3
80°	51.7	52.6	64.2	86.5	64.2	61.5	66.0	69.6	69.6
82.5°	33.9	35.7	41.9	55.3	42.8	41.9	43.7	46.4	46.4
85°	19.6	20.5	23.2	30.3	24.1	24.1	25.9	25.9	25.0
87.5°	8.0	8.9	9.8	11.6	10.7	11.6	11.6	9.8	10.7
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	20.39	21.92	20.76	22.23	22.54	19.97	21.49	20.33	21.81	22.12
	3H	21.60	22.96	21.97	23.29	23.65	21.48	22.85	21.86	23.18	23.54
	4H	21.99	23.28	22.39	23.62	24.00	22.01	23.29	22.41	23.64	24.02
	6H	22.25	23.43	22.66	23.80	24.19	22.36	23.55	22.77	23.91	24.30
	8H	22.31	23.44	22.73	23.83	24.23	22.46	23.59	22.88	23.98	24.38
	12H	22.34	23.42	22.77	23.80	24.23	22.51	23.59	22.94	23.97	24.40
4H	2H	21.45	22.73	21.85	23.08	23.46	21.04	22.32	21.44	22.67	23.05
	3H	22.81	23.88	23.22	24.28	24.68	22.67	23.73	23.08	24.13	24.53
	4H	23.27	24.23	23.71	24.65	25.09	23.25	24.21	23.68	24.62	25.06
	6H	23.59	24.42	24.04	24.86	25.32	23.67	24.50	24.12	24.94	25.40
	8H	23.67	24.44	24.13	24.89	25.36	23.78	24.56	24.25	25.01	25.48
	12H	23.71	24.41	24.20	24.89	25.36	23.86	24.56	24.34	25.03	25.51
8H	4H	23.63	24.41	24.09	24.85	25.32	23.59	24.37	24.05	24.81	25.28
	6H	24.03	24.68	24.53	25.17	25.64	24.11	24.75	24.60	25.24	25.72
	8H	24.15	24.73	24.67	25.24	25.73	24.27	24.85	24.79	25.36	25.85
	12H	24.24	24.75	24.75	25.24	25.81	24.40	24.91	24.91	25.40	25.96
12H	4H	23.65	24.35	24.13	24.83	25.30	23.60	24.30	24.09	24.78	25.25
	6H	24.08	24.66	24.59	25.16	25.65	24.15	24.73	24.66	25.24	25.72
	8H	24.25	24.76	24.76	25.25	25.81	24.37	24.88	24.88	25.37	25.93