

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P925585

Luminaire Tested: DFN2DIP-SQ3F0-080D050US950-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P925585
REPORT IS A COMBINATION OF REPORTS P901407 AND P898289
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-080D050US950-FLLONL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

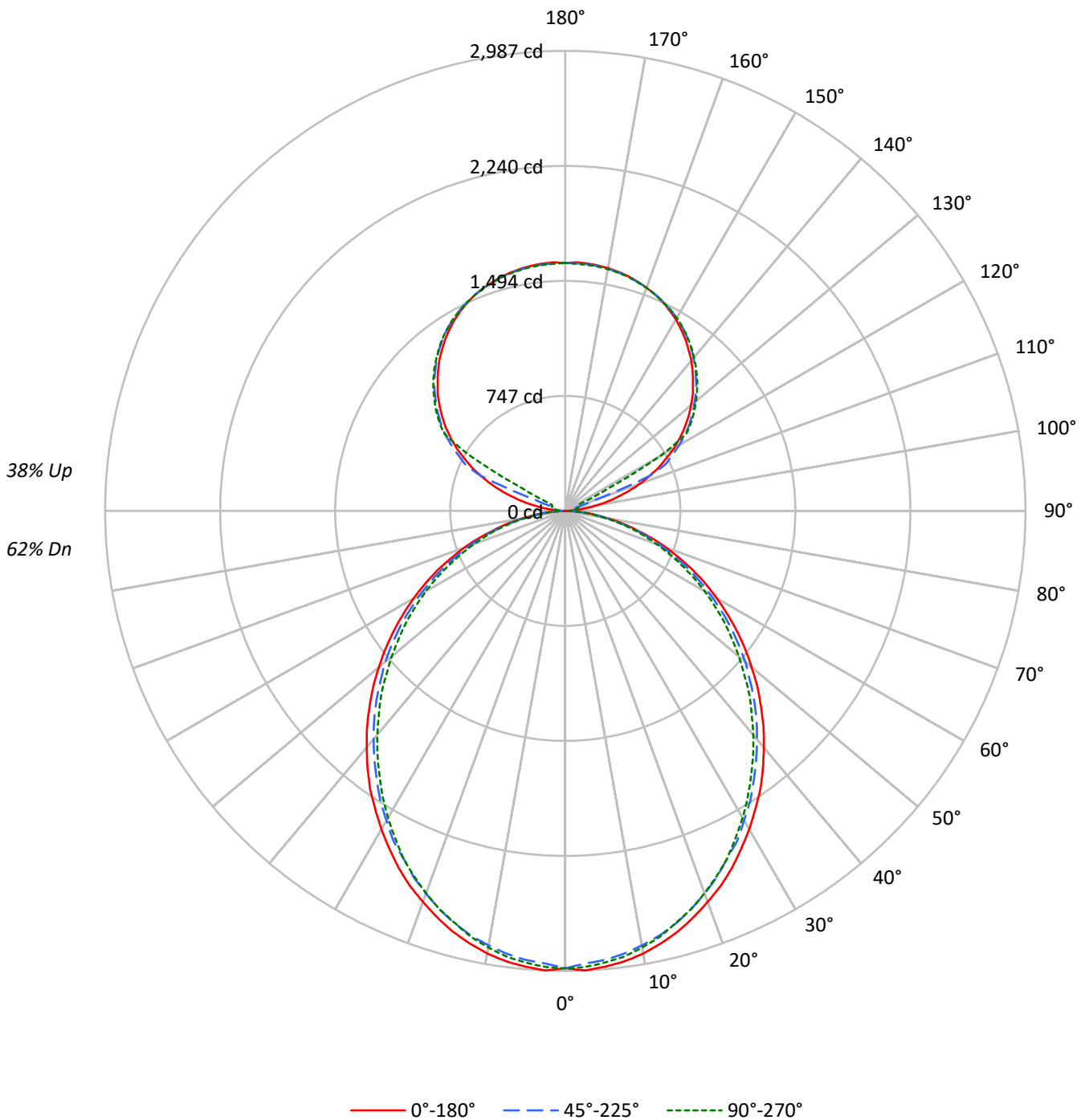
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12278.0 lumens
Efficiency: N/A
Efficacy: 108.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 113.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P925585
CATALOG NUMBER: DFN2DIP-SQ3F0-080D050US950-FLLONL

Luminous Intensity Polar Plot





TEST NUMBER: P925585

CATALOG NUMBER: DFN2DIP-SQ3F0-080D050US950-FLLONL

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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	67	67	67	62
1	100	96	92	88	94	90	87	83	79	76	74	69	67	65	59	58	56	59	58	56	52
2	91	84	78	72	85	79	73	69	69	65	61	60	57	54	52	50	48	52	50	48	43
3	83	74	66	60	78	69	63	57	61	56	51	53	49	46	46	43	40	46	43	40	37
4	76	65	57	51	71	61	54	49	54	48	44	47	43	39	41	38	35	41	38	35	32
5	70	58	50	44	65	55	47	42	49	43	38	43	38	34	37	33	30	37	33	30	27
6	65	52	44	38	60	49	42	36	44	38	33	39	34	30	34	30	27	34	30	27	24
7	60	47	39	34	56	45	37	32	40	34	29	35	30	27	31	27	24	31	27	24	21
8	56	43	35	30	52	41	34	29	36	30	26	32	27	24	28	24	21	28	24	21	19
9	52	39	32	27	49	37	30	26	33	28	23	30	25	21	26	22	19	26	22	19	17
10	49	36	29	24	45	34	28	23	31	25	21	27	23	19	24	20	18	24	20	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3403	3403	3403
5°	3406	3353	3377
10°	3376	3306	3330
15°	3324	3249	3257
20°	3255	3171	3183
25°	3186	3078	3098
30°	3100	2992	2989
35°	3019	2890	2874
40°	2919	2788	2765
45°	2819	2685	2653
50°	2709	2576	2523
55°	2595	2451	2404
60°	2465	2303	2267
65°	2323	2149	2106
70°	2142	1961	1932
75°	1893	1736	1770
80°	1591	1448	1462
85°	1120	960	958

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2819 cd/sqm



TEST NUMBER: P925585

CATALOG NUMBER: DFN2DIP-SQ3F0-080D050US950-FLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	279.5	2.3
10°-20°	786.4	6.4
20°-30°	1155.7	9.4
30°-40°	1342.3	10.9
40°-50°	1340.6	10.9
50°-60°	1169.0	9.5
60°-70°	864.1	7.0
70°-80°	488.9	4.0
80°-90°	131.9	1.1
90°-100°	53.1	0.4
100°-110°	197.9	1.6
110°-120°	524.8	4.3
120°-130°	870.4	7.1
130°-140°	924.6	7.5
140°-150°	859.3	7.0
150°-160°	690.9	5.6
160°-170°	445.2	3.6
170°-180°	153.2	1.2
0°-30°	2221.6	18.1
0°-40°	3563.9	29.0
0°-60°	6073.6	49.5
0°-90°	7558.5	61.6
90°-120°	775.8	6.3
90°-150°	3430.2	27.9
90°-180°	4719.0	38.4
0°-180°	12278.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2970	2970	2970	2970	2970	
5°	2970	2958	2927	2950	2944	282
15°	2827	2810	2773	2784	2770	796
25°	2558	2536	2487	2493	2487	1177
35°	2207	2179	2133	2116	2102	1378
45°	1796	1776	1733	1702	1691	1386
55°	1359	1342	1308	1274	1259	1215
65°	917	900	871	845	831	906
75°	480	474	460	443	448	512
85°	117	114	112	103	100	130
90°	1	14	23	29	31	11
95°	76	37	45	51	50	90
105°	354	389	71	84	88	378
115°	670	690	719	179	96	659
125°	947	962	984	992	996	845
135°	1172	1191	1201	1213	1210	905
145°	1359	1358	1378	1386	1380	850
155°	1497	1486	1500	1507	1498	690
165°	1577	1570	1574	1582	1574	446
175°	1613	1605	1608	1616	1604	154
180°	1610	1610	1610	1610	1610	



TEST NUMBER: P925585

CATALOG NUMBER: DFN2DIP-SQ3F0-080D050US950-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2969.6	2969.6	2969.6	2969.6	2969.6
2.5°	2986.9	2972.7	2941.2	2969.6	2964.2
5°	2969.6	2958.4	2927.0	2949.7	2944.2
7.5°	2949.7	2932.7	2901.2	2924.2	2918.5
10°	2918.5	2898.4	2864.2	2886.9	2878.5
12.5°	2875.5	2858.5	2824.2	2838.4	2832.7
15°	2827.0	2810.0	2772.7	2784.2	2770.0
17.5°	2767.0	2750.0	2712.7	2727.0	2712.7
20°	2701.3	2684.3	2644.3	2652.8	2641.5
22.5°	2635.8	2610.0	2572.7	2572.7	2567.0
25°	2558.5	2535.8	2487.4	2492.8	2487.4
27.5°	2472.8	2452.8	2415.8	2407.3	2393.1
30°	2387.4	2364.3	2321.7	2313.2	2301.6
32.5°	2295.9	2278.9	2233.1	2215.9	2204.4
35°	2207.4	2178.9	2133.1	2115.9	2101.7
37.5°	2107.4	2081.6	2035.9	2015.9	2001.7
40°	2004.7	1981.6	1936.0	1910.5	1898.9
42.5°	1904.8	1881.7	1836.3	1807.4	1790.6
45°	1796.3	1776.3	1733.2	1702.0	1690.6
47.5°	1690.6	1670.5	1624.8	1593.3	1576.3
50°	1579.1	1564.8	1524.8	1484.8	1470.6
52.5°	1470.6	1450.6	1413.6	1382.2	1362.1
55°	1359.4	1342.1	1307.9	1273.7	1259.4
57.5°	1247.9	1233.7	1196.4	1162.2	1150.6
60°	1136.4	1125.2	1085.2	1053.7	1045.2
62.5°	1027.9	1008.0	979.5	951.0	939.5
65°	916.8	899.5	871.0	845.2	831.0
67.5°	802.5	788.0	762.5	742.6	731.1
70°	696.8	685.3	659.6	639.6	628.3
72.5°	588.3	576.9	562.6	542.6	534.1
75°	479.6	474.1	459.6	442.7	448.4
77.5°	382.6	371.1	365.4	356.9	348.4
80°	285.7	282.7	276.9	268.5	262.6
82.5°	194.2	194.2	191.5	179.9	179.9
85°	117.0	114.2	111.5	102.7	100.0
87.5°	51.5	45.8	40.0	31.5	28.5
90°	1.1	13.9	23.3	29.2	31.4
92.5°	29.2	24.5	28.0	30.3	31.4
95°	75.7	37.2	45.4	51.3	50.1
97.5°	136.2	40.8	59.3	63.0	64.0
100°	206.3	46.7	66.4	75.7	78.0
102.5°	283.1	280.8	68.8	81.5	85.1
105°	354.1	389.1	71.1	83.9	88.5
107.5°	436.8	465.8	73.5	86.1	90.9
110°	516.1	540.4	203.9	87.4	92.0



TEST NUMBER: P925585

CATALOG NUMBER: DFN2DIP-SQ3F0-080D050US950-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	590.6	611.5	591.8	89.7	93.2
115°	669.8	689.6	718.7	179.4	95.6
117.5°	738.5	761.8	781.7	614.9	309.9
120°	815.4	832.8	853.8	867.9	710.5
122.5°	880.5	899.2	922.6	929.6	930.8
125°	946.9	962.2	984.3	992.4	996.0
127.5°	1007.5	1023.8	1041.5	1053.0	1054.2
130°	1064.7	1083.4	1096.1	1108.9	1107.9
132.5°	1123.0	1138.1	1150.8	1161.4	1160.3
135°	1171.9	1190.6	1200.9	1212.7	1210.3
137.5°	1223.0	1237.1	1248.8	1260.4	1257.0
140°	1273.1	1282.6	1295.2	1305.7	1300.0
142.5°	1315.2	1323.4	1338.5	1347.7	1341.9
145°	1359.4	1358.2	1378.0	1386.2	1380.3
147.5°	1397.8	1394.3	1414.1	1419.9	1415.4
150°	1435.1	1427.0	1445.6	1452.6	1446.7
152.5°	1466.5	1457.2	1474.7	1481.8	1473.5
155°	1496.8	1486.4	1500.4	1507.3	1498.1
157.5°	1521.2	1512.0	1522.5	1530.7	1521.2
160°	1542.3	1535.3	1542.3	1549.2	1541.1
162.5°	1560.8	1554.0	1559.7	1567.9	1557.4
165°	1577.2	1570.3	1573.7	1581.8	1573.7
167.5°	1590.0	1583.0	1586.6	1594.7	1584.2
170°	1600.5	1593.5	1595.9	1604.0	1593.5
172.5°	1607.5	1600.5	1602.9	1611.0	1600.5
175°	1613.3	1605.1	1607.5	1615.6	1604.0
177.5°	1615.6	1607.5	1608.7	1616.8	1606.3
180°	1609.8	1609.8	1609.8	1609.8	1609.8



TEST NUMBER: P925585
 CATALOG NUMBER: DFN2DIP-SQ3F0-080D050US950-FLLONL

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	12.50	13.47	13.35	14.34	15.44	12.05	13.03	12.90	13.90	15.00
	3H	14.16	15.04	15.02	15.92	17.04	13.67	14.55	14.53	15.43	16.55
	4H	14.75	15.58	15.63	16.47	17.60	14.26	15.08	15.14	15.97	17.11
	6H	15.15	15.92	16.04	16.81	17.96	14.65	15.42	15.54	16.31	17.46
	8H	15.26	15.99	16.16	16.90	18.04	14.76	15.48	15.66	16.40	17.54
	12H	15.31	16.00	16.21	16.91	18.08	14.80	15.49	15.71	16.40	17.57
4H	2H	12.97	13.79	13.85	14.68	15.82	12.61	13.44	13.50	14.33	15.46
	3H	14.84	15.53	15.73	16.45	17.60	14.43	15.12	15.33	16.04	17.19
	4H	15.55	16.18	16.46	17.10	18.27	15.13	15.76	16.04	16.68	17.85
	6H	16.07	16.61	16.99	17.55	18.73	15.64	16.18	16.56	17.12	18.30
	8H	16.22	16.73	17.14	17.66	18.85	15.78	16.29	16.71	17.23	18.41
	12H	16.30	16.75	17.24	17.71	18.90	15.85	16.31	16.79	17.26	18.45
8H	4H	15.75	16.26	16.68	17.20	18.39	15.38	15.89	16.30	16.82	18.01
	6H	16.38	16.81	17.33	17.78	18.97	16.00	16.42	16.95	17.40	18.59
	8H	16.60	16.98	17.56	17.94	19.15	16.21	16.58	17.17	17.55	18.75
	12H	16.74	17.06	17.70	18.02	19.28	16.33	16.65	17.29	17.61	18.87
12H	4H	15.74	16.20	16.69	17.16	18.35	15.38	15.83	16.32	16.79	17.98
	6H	16.41	16.79	17.37	17.75	18.96	16.04	16.41	17.00	17.38	18.59
	8H	16.66	16.98	17.62	17.94	19.20	16.28	16.60	17.24	17.56	18.82