

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: P917365

Luminaire Tested: DFN2DIP-SQ3F0-070D050US930-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P917365
REPORT IS A COMBINATION OF REPORTS P901405 AND P898289
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-070D050US930-FLLONL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

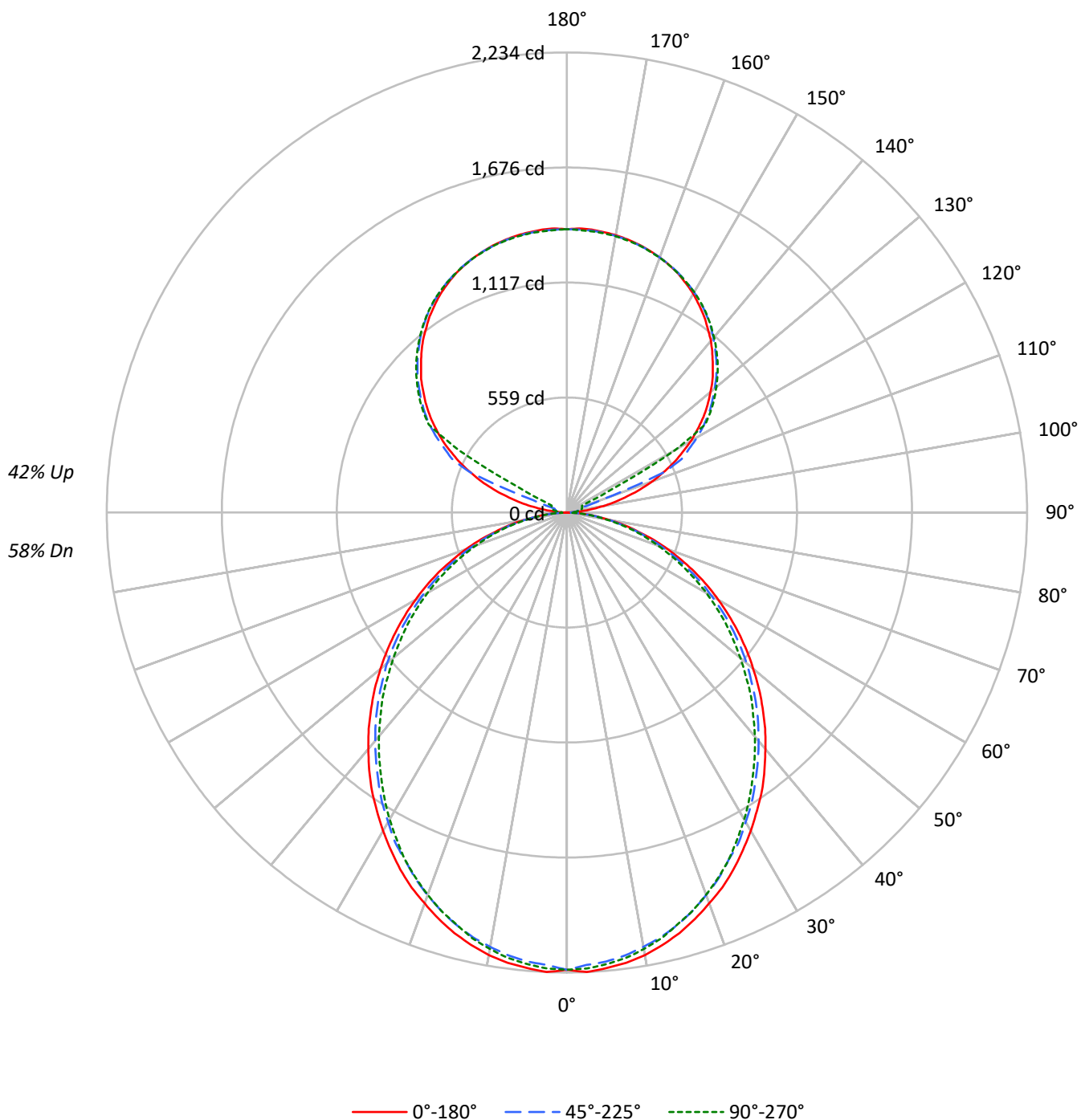
Lumens per Lamp: N/A
Luminaire Lumens: 9685.8 lumens
Efficiency: N/A
Efficacy: 94.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 102.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9963
Total Harmonic Distortion (THDi): 0.065
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P917365

CATALOG NUMBER: DFN2DIP-SQ3F0-070D050US930-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P917365

CATALOG NUMBER: DFN2DIP-SQ3F0-070D050US930-FLLONL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	109	109	109	109	102	102	102	102	88	88	88	75	75	75	64	64	64
1	100	95	91	88	93	89	86	82	77	75	72	66	65	63	56	55	54
2	91	83	77	72	84	78	72	68	68	64	60	58	55	53	50	47	45
3	83	73	66	60	77	69	62	57	60	55	50	52	48	44	44	41	39
4	76	65	57	51	70	61	54	48	53	47	43	46	42	38	39	36	33
5	70	58	50	43	65	54	47	41	48	42	37	41	37	33	35	32	29
6	64	52	44	38	60	49	41	36	43	37	32	37	33	29	32	29	26
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	29	26	23
8	55	43	35	29	51	40	33	28	36	30	26	31	26	23	27	23	20
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	18
10	48	36	29	24	45	34	27	23	30	25	21	27	22	19	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2544	2544	2544
5°	2547	2507	2525
10°	2525	2472	2490
15°	2486	2429	2436
20°	2434	2371	2380
25°	2383	2302	2316
30°	2318	2237	2235
35°	2257	2161	2149
40°	2183	2085	2067
45°	2108	2008	1984
50°	2026	1927	1887
55°	1940	1833	1798
60°	1843	1722	1695
65°	1737	1607	1575
70°	1602	1466	1445
75°	1415	1298	1323
80°	1189	1083	1094
85°	838	718	716

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2108 cd/sqm

TEST NUMBER: P917365

CATALOG NUMBER: DFN2DIP-SQ3F0-070D050US930-FLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.0	2.2
10°-20°	588.1	6.1
20°-30°	864.2	8.9
30°-40°	1003.7	10.4
40°-50°	1002.5	10.4
50°-60°	874.2	9.0
60°-70°	646.2	6.7
70°-80°	365.6	3.8
80°-90°	98.9	1.0
90°-100°	45.4	0.5
100°-110°	169.1	1.7
110°-120°	448.5	4.6
120°-130°	743.9	7.7
130°-140°	790.2	8.2
140°-150°	734.4	7.6
150°-160°	590.4	6.1
160°-170°	380.5	3.9
170°-180°	130.9	1.4
0°-30°	1661.3	17.2
0°-40°	2665.1	27.5
0°-60°	4541.7	46.9
0°-90°	5652.4	58.4
90°-120°	663.0	6.8
90°-150°	2931.5	30.3
90°-180°	4033.0	41.6
0°-180°	9685.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2221	2221	2221	2221	2221	
5°	2221	2212	2189	2206	2202	211
15°	2114	2101	2073	2082	2071	595
25°	1913	1896	1860	1864	1860	880
35°	1651	1629	1595	1582	1572	1031
45°	1343	1328	1296	1273	1264	1037
55°	1016	1004	978	952	942	909
65°	686	673	651	632	621	678
75°	359	355	344	331	335	383
85°	88	85	83	77	75	98
90°	1	12	20	25	27	9
95°	65	32	39	44	43	77
105°	303	333	61	72	76	323
115°	572	589	614	153	82	564
125°	809	822	841	848	851	722
135°	1002	1018	1026	1036	1034	774
145°	1162	1161	1178	1185	1180	727
155°	1279	1270	1282	1288	1280	589
165°	1348	1342	1345	1352	1345	381
175°	1379	1372	1374	1381	1371	131
180°	1376	1376	1376	1376	1376	

TEST NUMBER: P917365

CATALOG NUMBER: DFN2DIP-SQ3F0-070D050US930-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2220.6	2220.6	2220.6	2220.6	2220.6
2.5°	2233.6	2222.9	2199.3	2220.6	2216.6
5°	2220.6	2212.3	2188.7	2205.7	2201.6
7.5°	2205.7	2193.0	2169.4	2186.7	2182.4
10°	2182.4	2167.4	2141.8	2158.8	2152.5
12.5°	2150.2	2137.5	2111.9	2122.5	2118.2
15°	2114.0	2101.3	2073.4	2082.0	2071.3
17.5°	2069.1	2056.4	2028.5	2039.2	2028.5
20°	2019.9	2007.3	1977.3	1983.7	1975.3
22.5°	1971.0	1951.7	1923.9	1923.9	1919.5
25°	1913.3	1896.2	1860.0	1864.1	1860.0
27.5°	1849.1	1834.2	1806.5	1800.2	1789.5
30°	1785.3	1768.0	1736.1	1729.7	1721.1
32.5°	1716.8	1704.1	1669.9	1657.0	1648.4
35°	1650.7	1629.4	1595.1	1582.2	1571.6
37.5°	1575.9	1556.6	1522.4	1507.5	1496.8
40°	1499.1	1481.9	1447.6	1428.6	1420.0
42.5°	1424.3	1407.1	1373.1	1351.6	1338.9
45°	1343.2	1328.3	1296.1	1272.8	1264.1
47.5°	1264.1	1249.2	1215.0	1191.4	1178.8
50°	1180.8	1170.1	1140.2	1110.4	1099.7
52.5°	1099.7	1084.8	1057.1	1033.6	1018.6
55°	1016.5	1003.6	978.0	952.4	941.8
57.5°	933.2	922.5	894.6	869.0	860.5
60°	849.8	841.4	811.5	788.0	781.6
62.5°	768.7	753.7	732.5	711.2	702.5
65°	685.6	672.6	651.3	632.1	621.4
67.5°	600.1	589.3	570.2	555.3	546.7
70°	521.1	512.5	493.2	478.3	469.9
72.5°	439.9	431.4	420.7	405.8	399.4
75°	358.6	354.6	343.6	331.0	335.3
77.5°	286.2	277.5	273.2	266.8	260.6
80°	213.6	211.4	207.1	200.7	196.4
82.5°	145.2	145.2	143.2	134.6	134.6
85°	87.5	85.4	83.4	76.8	74.8
87.5°	38.5	34.2	29.9	23.6	21.3
90°	1.0	11.9	19.9	24.9	26.8
92.5°	24.9	21.0	23.9	25.9	26.8
95°	64.7	31.8	38.8	43.9	42.8
97.5°	116.4	34.9	50.7	53.8	54.7
100°	176.3	39.9	56.7	64.7	66.7
102.5°	241.9	239.9	58.8	69.6	72.7
105°	302.6	332.6	60.7	71.7	75.7
107.5°	373.3	398.1	62.8	73.6	77.7
110°	441.1	461.9	174.2	74.7	78.6

TEST NUMBER: P917365

CATALOG NUMBER: DFN2DIP-SQ3F0-070D050US930-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	504.8	522.6	505.7	76.6	79.7
115°	572.4	589.3	614.2	153.4	81.7
117.5°	631.1	651.0	668.1	525.5	264.8
120°	696.8	711.8	729.7	741.7	607.2
122.5°	752.5	768.5	788.5	794.4	795.5
125°	809.3	822.3	841.2	848.2	851.2
127.5°	861.0	875.0	890.1	899.9	900.9
130°	909.9	925.9	936.7	947.7	946.8
132.5°	959.7	972.7	983.5	992.5	991.6
135°	1001.5	1017.5	1026.3	1036.4	1034.4
137.5°	1045.2	1057.2	1067.2	1077.2	1074.2
140°	1088.0	1096.1	1106.9	1115.9	1111.0
142.5°	1124.0	1131.0	1143.9	1151.8	1146.8
145°	1161.8	1160.7	1177.6	1184.6	1179.7
147.5°	1194.6	1191.6	1208.5	1213.5	1209.6
150°	1226.5	1219.5	1235.4	1241.4	1236.4
152.5°	1253.3	1245.4	1260.3	1266.3	1259.3
155°	1279.2	1270.3	1282.2	1288.2	1280.3
157.5°	1300.1	1292.2	1301.1	1308.1	1300.1
160°	1318.1	1312.1	1318.1	1324.0	1317.0
162.5°	1333.9	1328.0	1332.9	1339.9	1331.0
165°	1347.9	1342.0	1344.9	1351.8	1344.9
167.5°	1358.9	1352.8	1355.9	1362.9	1353.9
170°	1367.8	1361.8	1363.8	1370.8	1361.8
172.5°	1373.8	1367.8	1369.9	1376.8	1367.8
175°	1378.8	1371.7	1373.8	1380.7	1370.8
177.5°	1380.7	1373.8	1374.8	1381.8	1372.8
180°	1375.7	1375.7	1375.7	1375.7	1375.7

TEST NUMBER: P917365

CATALOG NUMBER: DFN2DIP-SQ3F0-070D050US930-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	11.22	12.16	12.10	13.06	14.21	10.78	11.72	11.66	12.62	13.77
	3H	12.88	13.73	13.78	14.64	15.81	12.39	13.24	13.29	14.15	15.32
	4H	13.47	14.27	14.38	15.19	16.37	12.98	13.78	13.89	14.69	15.87
	6H	13.87	14.61	14.79	15.53	16.73	13.37	14.11	14.29	15.03	16.23
	8H	13.98	14.68	14.91	15.62	16.81	13.47	14.18	14.40	15.12	16.31
	12H	14.03	14.69	14.96	15.63	16.85	13.52	14.18	14.45	15.12	16.34
4H	2H	11.69	12.49	12.60	13.40	14.59	11.33	12.13	12.25	13.05	14.23
	3H	13.56	14.22	14.48	15.17	16.37	13.15	13.81	14.07	14.76	15.96
	4H	14.27	14.88	15.20	15.82	17.04	13.84	14.45	14.78	15.40	16.62
	6H	14.78	15.31	15.73	16.28	17.50	14.35	14.88	15.30	15.84	17.07
	8H	14.93	15.42	15.89	16.39	17.62	14.50	14.99	15.45	15.95	17.18
	12H	15.01	15.45	15.98	16.43	17.67	14.56	15.00	15.53	15.98	17.22
8H	4H	14.47	14.96	15.42	15.92	17.16	14.09	14.58	15.04	15.54	16.78
	6H	15.10	15.50	16.07	16.51	17.74	14.71	15.12	15.69	16.12	17.36
	8H	15.31	15.67	16.30	16.67	17.92	14.92	15.28	15.91	16.27	17.52
	12H	15.45	15.76	16.44	16.75	18.05	15.04	15.35	16.03	16.34	17.64
12H	4H	14.46	14.90	15.43	15.88	17.12	14.09	14.53	15.06	15.51	16.75
	6H	15.12	15.48	16.11	16.48	17.73	14.75	15.11	15.74	16.10	17.36
	8H	15.37	15.68	16.36	16.67	17.97	14.99	15.30	15.98	16.29	17.59