

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: P914448

Luminaire Tested: DFN2DIP-SQ2F0-050D080US927-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914448
REPORT IS A COMBINATION OF REPORTS P899835 AND P896659
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-050D080US927-FLLFLL
Description: 2 foot, Square Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

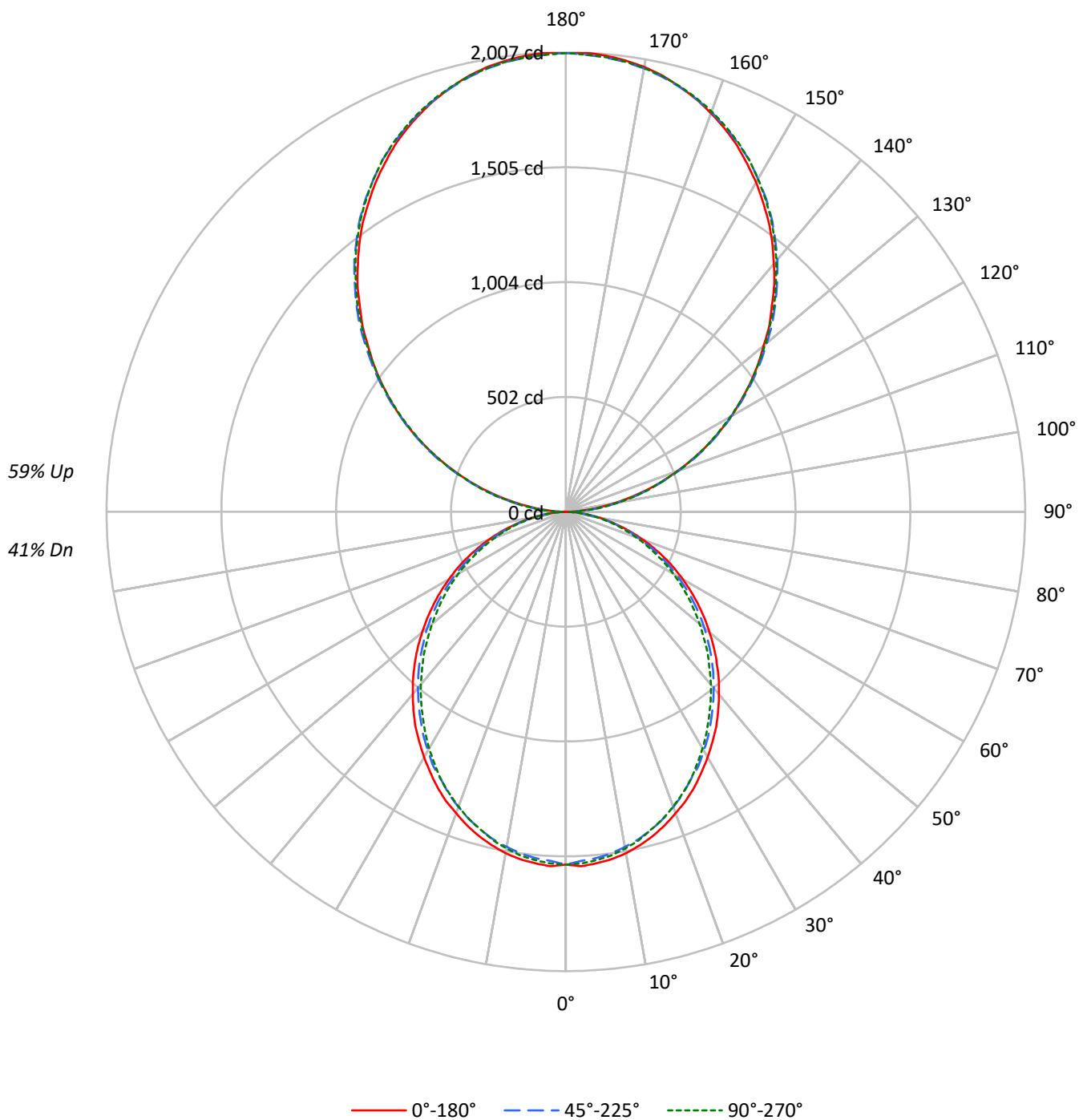
Lumens per Lamp: N/A
Luminaire Lumens: 9529.9 lumens
Efficiency: N/A
Efficacy: 87.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 109.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P914448

CATALOG NUMBER: DFN2DIP-SQ2F0-050D080US927-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P914448

CATALOG NUMBER: DFN2DIP-SQ2F0-050D080US927-FLLFL

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	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48
1	96	92	88	84	87	84	80	77	69	66	64	55	53	52	42	41	41
2	87	80	74	69	79	73	68	63	60	56	53	48	46	43	37	36	34
3	80	70	63	57	72	64	58	53	53	48	45	43	39	37	33	31	29
4	73	62	54	48	66	57	50	45	47	42	38	38	34	31	30	27	25
5	67	55	47	41	61	51	44	38	42	37	33	34	30	27	27	24	22
6	61	50	42	36	56	46	38	33	38	33	29	31	27	24	24	21	19
7	57	45	37	31	52	41	34	29	34	29	25	28	24	21	22	19	17
8	53	40	33	28	48	37	31	26	31	26	22	26	22	19	20	17	15
9	49	37	30	25	45	34	27	23	29	23	20	24	20	17	19	16	14
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3389	3389	3389
5°	3388	3334	3359
10°	3355	3282	3309
15°	3300	3221	3233
20°	3227	3138	3156
25°	3155	3041	3067
30°	3066	2950	2956
35°	2981	2845	2838
40°	2878	2737	2726
45°	2774	2629	2610
50°	2660	2516	2477
55°	2541	2384	2354
60°	2405	2230	2213
65°	2257	2068	2046
70°	2068	1872	1865
75°	1809	1636	1692
80°	1495	1336	1374
85°	1010	843	863

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2793 cd/sqm

TEST NUMBER: P914448

CATALOG NUMBER: DFN2DIP-SQ2F0-050D080US927-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.1	1.5
10°-20°	408.1	4.3
20°-30°	599.8	6.3
30°-40°	696.6	7.3
40°-50°	695.8	7.3
50°-60°	606.7	6.4
60°-70°	448.5	4.7
70°-80°	253.7	2.7
80°-90°	72.7	0.8
90°-100°	124.0	1.3
100°-110°	394.1	4.1
110°-120°	674.4	7.1
120°-130°	886.9	9.3
130°-140°	995.5	10.4
140°-150°	976.2	10.2
150°-160°	818.9	8.6
160°-170°	543.1	5.7
170°-180°	189.8	2.0
0°-30°	1153.0	12.1
0°-40°	1849.6	19.4
0°-60°	3152.1	33.1
0°-90°	3927.0	41.2
90°-120°	1192.5	12.5
90°-150°	4051.1	42.5
90°-180°	5603.0	58.8
0°-180°	9529.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1541	1541	1541	1541	1541	
5°	1541	1535	1519	1531	1528	146
15°	1467	1458	1439	1445	1438	413
25°	1328	1316	1291	1294	1291	611
35°	1146	1131	1107	1098	1091	715
45°	932	922	900	883	877	719
55°	706	697	679	661	654	631
65°	476	467	452	439	431	470
75°	249	246	238	230	233	266
85°	61	59	58	53	52	68
90°	2	22	59	56	57	9
95°	88	105	108	108	105	98
105°	364	369	372	375	375	384
115°	677	686	683	682	677	669
125°	984	999	995	989	987	880
135°	1273	1292	1296	1294	1289	984
145°	1546	1558	1567	1569	1563	966
155°	1767	1772	1778	1786	1781	813
165°	1923	1921	1921	1933	1924	542
175°	2001	1996	1992	2004	1994	190
180°	2004	2004	2004	2004	2004	

TEST NUMBER: P914448

CATALOG NUMBER: DFN2DIP-SQ2F0-050D080US927-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1541.2	1541.2	1541.2	1541.2	1541.2
2.5°	1550.1	1542.8	1526.5	1541.2	1538.4
5°	1541.2	1535.4	1519.0	1530.8	1528.0
7.5°	1530.8	1522.0	1505.7	1517.7	1514.7
10°	1514.7	1504.3	1486.5	1498.3	1493.9
12.5°	1492.3	1483.5	1465.8	1473.1	1470.1
15°	1467.1	1458.3	1439.0	1445.0	1437.6
17.5°	1436.0	1427.2	1407.9	1415.2	1407.9
20°	1401.9	1393.1	1372.4	1376.7	1370.9
22.5°	1367.9	1354.6	1335.2	1335.2	1332.2
25°	1327.9	1316.1	1290.9	1293.7	1290.9
27.5°	1283.3	1273.0	1253.8	1249.3	1242.0
30°	1239.0	1227.1	1204.9	1200.5	1194.5
32.5°	1191.5	1182.7	1159.0	1150.0	1144.1
35°	1145.6	1130.8	1107.1	1098.1	1090.8
37.5°	1093.7	1080.4	1056.6	1046.2	1038.9
40°	1040.5	1028.5	1004.7	991.5	985.6
42.5°	988.6	976.6	953.0	938.0	929.2
45°	932.2	921.9	899.5	883.4	877.3
47.5°	877.3	867.0	843.3	826.9	818.1
50°	819.5	812.1	791.4	770.6	763.2
52.5°	763.2	752.8	733.6	717.3	706.9
55°	705.5	696.6	678.7	661.0	653.6
57.5°	647.6	640.2	620.9	603.2	597.1
60°	589.8	584.0	563.2	546.8	542.5
62.5°	533.5	523.2	508.3	493.5	487.6
65°	475.8	466.8	452.0	438.7	431.3
67.5°	416.5	409.0	395.8	385.4	379.4
70°	361.6	355.7	342.3	331.9	326.1
72.5°	305.4	299.4	292.0	281.6	277.2
75°	248.9	246.1	238.5	229.7	232.7
77.5°	198.6	192.6	189.6	185.2	180.9
80°	148.3	146.7	143.7	139.3	136.3
82.5°	100.8	100.8	99.3	93.4	93.4
85°	60.7	59.3	57.8	53.3	51.9
87.5°	26.7	23.8	20.8	16.3	14.8
90°	1.8	21.8	59.3	55.6	57.4
92.5°	37.5	50.8	52.6	54.3	54.3
95°	88.2	105.1	108.1	108.1	105.1
97.5°	146.9	162.6	169.2	169.2	169.2
100°	214.5	228.4	233.2	233.2	231.4
102.5°	285.8	296.1	302.7	304.5	302.7
105°	363.8	368.6	372.2	375.3	375.3
107.5°	441.1	448.4	448.4	449.6	441.1
110°	516.0	525.7	525.7	525.7	520.9

TEST NUMBER: P914448

CATALOG NUMBER: DFN2DIP-SQ2F0-050D080US927-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	597.0	607.3	605.5	600.6	597.0
115°	676.8	686.4	683.4	681.6	676.8
117.5°	755.9	769.2	760.7	755.9	751.1
120°	835.7	849.0	835.7	835.7	830.2
122.5°	908.2	925.1	916.6	911.8	908.2
125°	984.3	999.4	994.6	989.1	987.4
127.5°	1058.7	1077.4	1070.7	1063.5	1058.7
130°	1128.1	1149.9	1146.8	1143.3	1136.6
132.5°	1206.1	1223.0	1224.2	1215.8	1210.9
135°	1273.1	1291.9	1295.5	1293.7	1288.9
137.5°	1348.1	1363.2	1366.2	1365.0	1357.7
140°	1414.0	1429.0	1437.5	1437.5	1430.8
142.5°	1481.6	1496.7	1501.6	1503.4	1496.7
145°	1545.7	1557.7	1567.4	1569.2	1562.6
147.5°	1603.1	1618.2	1625.4	1628.5	1621.8
150°	1662.3	1672.5	1679.2	1684.7	1679.2
152.5°	1714.8	1725.1	1733.6	1740.3	1733.6
155°	1767.4	1772.3	1777.7	1786.1	1780.7
157.5°	1812.7	1816.4	1819.4	1831.4	1823.0
160°	1853.2	1856.9	1858.7	1868.9	1861.7
162.5°	1890.7	1890.7	1892.5	1904.0	1895.5
165°	1922.7	1920.9	1920.9	1933.0	1924.5
167.5°	1951.7	1946.3	1946.3	1958.4	1949.9
170°	1973.5	1968.6	1966.8	1978.9	1968.6
172.5°	1988.6	1983.8	1982.0	1994.0	1983.8
175°	2000.7	1995.8	1992.2	2004.3	1994.0
177.5°	2007.3	2002.5	1998.8	2009.1	1998.8
180°	2004.3	2004.3	2004.3	2004.3	2004.3

TEST NUMBER: P914448

CATALOG NUMBER: DFN2DIP-SQ2F0-050D080US927-FLLFLL

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	10.52	11.31	11.55	12.35	13.74	10.08	10.87	11.11	11.90	13.30
	3H	12.16	12.86	13.20	13.91	15.32	11.67	12.38	12.71	13.42	14.83
	4H	12.73	13.40	13.78	14.45	15.87	12.24	12.91	13.29	13.95	15.37
	6H	13.11	13.73	14.17	14.78	16.21	12.61	13.23	13.67	14.28	15.71
	8H	13.21	13.79	14.27	14.86	16.29	12.71	13.29	13.77	14.36	15.79
	12H	13.25	13.80	14.32	14.86	16.31	12.74	13.29	13.81	14.36	15.81
4H	2H	10.96	11.63	12.02	12.68	14.10	10.61	11.28	11.67	12.33	13.74
	3H	12.80	13.36	13.87	14.43	15.87	12.39	12.95	13.46	14.03	15.46
	4H	13.50	14.01	14.57	15.08	16.53	13.07	13.58	14.14	14.65	16.10
	6H	13.99	14.43	15.07	15.52	16.97	13.56	14.00	14.64	15.09	16.53
	8H	14.13	14.54	15.21	15.62	17.08	13.69	14.10	14.77	15.18	16.65
	12H	14.19	14.56	15.29	15.66	17.12	13.74	14.11	14.84	15.21	16.68
8H	4H	13.68	14.09	14.76	15.17	16.63	13.30	13.71	14.38	14.79	16.25
	6H	14.28	14.62	15.38	15.74	17.20	13.90	14.23	15.00	15.36	16.82
	8H	14.49	14.78	15.60	15.89	17.37	14.09	14.39	15.20	15.50	16.98
	12H	14.60	14.86	15.72	15.97	17.48	14.19	14.45	15.31	15.56	17.07
12H	4H	13.66	14.03	14.75	15.12	16.59	13.29	13.66	14.38	14.75	16.22
	6H	14.30	14.60	15.41	15.71	17.19	13.93	14.23	15.04	15.33	16.81
	8H	14.53	14.79	15.64	15.89	17.41	14.15	14.41	15.26	15.51	17.03

END OF REPORT