

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: P911842

Luminaire Tested: DFN2DIP-SQ3F0-050D060US850-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P911842
REPORT IS A COMBINATION OF REPORTS P899900 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-050D060US850-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

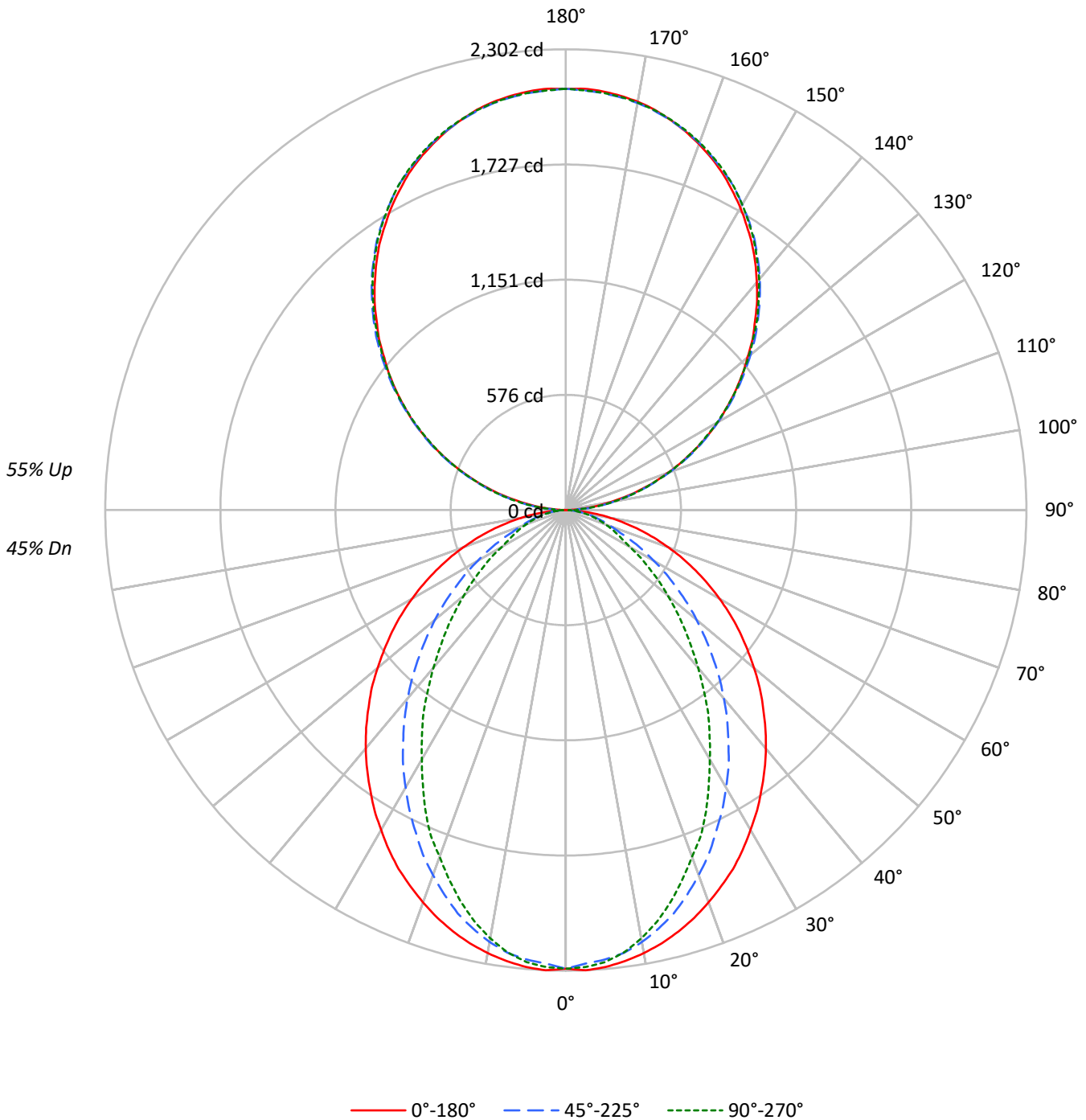
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10602.1 lumens
Efficiency: N/A
Efficacy: 121.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 87.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P911842
CATALOG NUMBER: DFN2DIP-SQ3F0-050D060US850-RLLFLL

Luminous Intensity Polar Plot





TEST NUMBER: P911842
 CATALOG NUMBER: DFN2DIP-SQ3F0-050D060US850-RLLFLL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	45	45	45	45
1	97	93	89	86	89	85	82	79	71	69	67	58	56	55	46	45	44	38	38	38	38
2	89	82	76	71	81	75	70	66	63	59	56	51	49	47	41	39	38	33	33	33	33
3	81	72	65	59	74	66	60	55	56	51	47	46	43	40	37	34	33	28	28	28	28
4	74	64	56	51	68	59	52	47	50	45	41	41	37	35	33	30	28	25	25	25	25
5	68	57	49	44	63	53	46	41	45	39	35	37	33	30	30	27	25	22	22	22	22
6	63	51	44	38	58	48	41	36	40	35	31	34	30	27	27	24	22	19	19	19	19
7	58	47	39	33	54	43	36	31	37	31	28	31	27	24	25	22	20	17	17	17	17
8	54	42	35	30	50	39	33	28	34	28	25	28	24	21	23	20	18	16	16	16	16
9	51	39	31	27	46	36	29	25	31	26	22	26	22	19	21	18	16	14	14	14	14
10	47	36	29	24	43	33	27	23	28	23	20	24	20	17	20	17	15	13	13	13	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2626	2626	2626
5°	2628	2583	2600
10°	2601	2530	2514
15°	2563	2445	2383
20°	2514	2328	2222
25°	2464	2197	2066
30°	2397	2063	1869
35°	2331	1919	1696
40°	2265	1771	1498
45°	2187	1606	1318
50°	2107	1440	1142
55°	2023	1263	974
60°	1925	1078	801
65°	1813	890	720
70°	1677	715	650
75°	1506	627	590
80°	1258	520	508
85°	854	339	377

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2187 cd/sqm



TEST NUMBER: P911842

CATALOG NUMBER: DFN2DIP-SQ3F0-050D060US850-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.8	2.0
10°-20°	589.6	5.6
20°-30°	827.8	7.8
30°-40°	902.4	8.5
40°-50°	829.4	7.8
50°-60°	651.3	6.1
60°-70°	424.0	4.0
70°-80°	218.2	2.1
80°-90°	61.7	0.6
90°-100°	130.2	1.2
100°-110°	413.7	3.9
110°-120°	708.0	6.7
120°-130°	931.2	8.8
130°-140°	1045.3	9.9
140°-150°	1025.0	9.7
150°-160°	859.8	8.1
160°-170°	570.2	5.4
170°-180°	199.3	1.9
0°-30°	1632.2	15.4
0°-40°	2534.6	23.9
0°-60°	4015.3	37.9
0°-90°	4719.3	44.5
90°-120°	1252.0	11.8
90°-150°	4253.5	40.1
90°-180°	5883.0	55.5
0°-180°	10602.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2292	2292	2292	2292	2292	
5°	2292	2281	2254	2273	2267	217
15°	2180	2157	2086	2047	2026	614
25°	1979	1912	1775	1690	1659	910
35°	1705	1599	1417	1286	1240	1067
45°	1394	1255	1037	890	840	1076
55°	1060	898	674	550	510	947
65°	716	548	361	290	284	709
75°	382	236	166	151	149	404
85°	89	46	39	39	39	102
90°	2	23	62	58	60	10
95°	93	110	114	114	110	103
105°	382	387	391	394	394	403
115°	710	721	718	716	710	703
125°	1034	1049	1044	1039	1037	924
135°	1337	1356	1360	1358	1353	1033
145°	1623	1636	1646	1648	1641	1014
155°	1856	1861	1866	1875	1870	854
165°	2019	2017	2017	2030	2021	569
175°	2101	2096	2092	2104	2094	200
180°	2104	2104	2104	2104	2104	



TEST NUMBER: P911842

CATALOG NUMBER: DFN2DIP-SQ3F0-050D060US850-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2291.7	2291.7	2291.7	2291.7	2291.7
2.5°	2302.1	2291.7	2268.9	2289.8	2285.5
5°	2291.7	2281.4	2254.4	2273.0	2266.9
7.5°	2273.0	2260.7	2231.6	2239.8	2229.4
10°	2248.2	2233.6	2192.3	2185.9	2173.5
12.5°	2217.1	2198.5	2142.4	2130.1	2107.1
15°	2179.7	2156.9	2086.5	2047.1	2026.4
17.5°	2136.2	2103.0	2015.8	1970.2	1937.0
20°	2086.5	2044.9	1941.2	1889.5	1843.7
22.5°	2032.6	1984.8	1864.5	1794.0	1763.0
25°	1978.6	1912.1	1775.3	1690.3	1659.1
27.5°	1914.4	1843.7	1692.3	1594.9	1547.2
30°	1845.9	1767.0	1601.1	1495.4	1439.3
32.5°	1779.5	1684.0	1514.1	1389.6	1337.7
35°	1704.9	1599.1	1416.6	1285.9	1240.2
37.5°	1632.2	1518.1	1325.4	1182.1	1130.4
40°	1555.5	1431.2	1229.8	1082.6	1028.7
42.5°	1476.7	1344.0	1134.5	980.9	929.2
45°	1393.8	1254.7	1037.0	889.6	839.8
47.5°	1314.9	1167.8	943.8	796.4	750.8
50°	1227.9	1080.6	852.5	709.2	665.8
52.5°	1142.7	987.1	765.3	628.5	589.1
55°	1059.8	898.0	673.9	549.6	510.3
57.5°	974.8	808.9	593.2	477.1	443.8
60°	887.6	721.7	508.0	402.5	369.2
62.5°	802.7	636.8	435.5	336.0	319.5
65°	715.5	547.5	360.9	290.4	284.1
67.5°	632.6	464.6	290.4	255.1	248.9
70°	545.5	383.7	240.5	219.8	211.5
72.5°	462.6	309.0	201.2	184.6	180.4
75°	381.6	236.3	165.9	151.4	149.4
77.5°	300.8	167.9	130.8	122.3	118.1
80°	226.0	120.3	99.5	91.3	91.3
82.5°	157.6	81.0	68.4	64.2	64.2
85°	89.2	45.6	39.4	39.4	39.4
87.5°	33.3	16.5	16.5	14.5	14.5
90°	1.9	22.8	62.2	58.3	60.2
92.5°	39.4	53.3	55.2	57.1	57.1
95°	92.6	110.3	113.6	113.6	110.3
97.5°	154.2	170.7	177.7	177.7	177.7
100°	225.2	239.8	244.9	244.9	243.0
102.5°	300.1	310.9	317.8	319.7	317.8
105°	381.9	387.0	390.8	394.0	394.0
107.5°	463.1	470.8	470.8	472.0	463.1
110°	541.9	551.9	551.9	551.9	546.8



TEST NUMBER: P911842

CATALOG NUMBER: DFN2DIP-SQ3F0-050D060US850-RLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	626.8	637.6	635.7	630.6	626.8
115°	710.5	720.7	717.5	715.6	710.5
117.5°	793.7	807.7	798.7	793.7	788.6
120°	877.4	891.4	877.4	877.4	871.7
122.5°	953.5	971.3	962.4	957.4	953.5
125°	1033.5	1049.3	1044.2	1038.6	1036.7
127.5°	1111.6	1131.2	1124.2	1116.7	1111.6
130°	1184.5	1207.4	1204.2	1200.4	1193.4
132.5°	1266.4	1284.1	1285.3	1276.5	1271.4
135°	1336.8	1356.4	1360.2	1358.3	1353.2
137.5°	1415.4	1431.3	1434.5	1433.2	1425.6
140°	1484.6	1500.5	1509.3	1509.3	1502.4
142.5°	1555.6	1571.5	1576.6	1578.4	1571.5
145°	1622.9	1635.6	1645.8	1647.6	1640.7
147.5°	1683.1	1699.0	1706.6	1709.7	1702.8
150°	1745.3	1756.1	1763.1	1768.7	1763.1
152.5°	1800.5	1811.3	1820.2	1827.2	1820.2
155°	1855.7	1860.8	1866.4	1875.4	1869.7
157.5°	1903.3	1907.1	1910.3	1923.0	1914.1
160°	1945.9	1949.6	1951.5	1962.3	1954.7
162.5°	1985.1	1985.1	1987.0	1999.1	1990.2
165°	2018.7	2016.8	2016.8	2029.6	2020.7
167.5°	2049.2	2043.6	2043.6	2056.2	2047.3
170°	2072.1	2067.0	2065.1	2077.7	2067.0
172.5°	2087.9	2082.8	2080.9	2093.6	2082.8
175°	2100.6	2095.6	2091.7	2104.4	2093.6
177.5°	2107.5	2102.6	2098.7	2109.4	2098.7
180°	2104.4	2104.4	2104.4	2104.4	2104.4



TEST NUMBER: P911842
 CATALOG NUMBER: DFN2DIP-SQ3F0-050D060US850-RLLFLL

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	9.93	10.72	10.94	11.73	13.08	5.89	6.68	6.90	7.69	9.04
	3H	11.60	12.30	12.62	13.33	14.70	7.07	7.77	8.09	8.80	10.17
	4H	12.20	12.87	13.24	13.90	15.27	7.51	8.18	8.55	9.21	10.59
	6H	12.62	13.23	13.66	14.26	15.65	7.83	8.44	8.87	9.47	10.86
	8H	12.74	13.33	13.79	14.37	15.76	7.91	8.50	8.96	9.54	10.93
	12H	12.80	13.36	13.85	14.40	15.81	7.95	8.51	9.00	9.55	10.96
4H	2H	9.94	10.61	10.98	11.63	13.01	6.48	7.15	7.52	8.17	9.55
	3H	11.76	12.32	12.81	13.37	14.76	7.82	8.37	8.86	9.43	10.82
	4H	12.45	12.96	13.50	14.00	15.42	8.36	8.87	9.41	9.91	11.33
	6H	12.96	13.39	14.02	14.46	15.87	8.77	9.20	9.83	10.27	11.68
	8H	13.13	13.53	14.19	14.60	16.02	8.89	9.30	9.96	10.36	11.78
	12H	13.22	13.59	14.30	14.66	16.09	8.95	9.32	10.03	10.39	11.82
8H	4H	12.41	12.82	13.47	13.88	15.30	8.63	9.04	9.70	10.10	11.53
	6H	12.97	13.31	14.06	14.41	15.83	9.14	9.48	10.23	10.58	12.00
	8H	13.18	13.48	14.28	14.57	16.01	9.33	9.62	10.42	10.71	12.15
	12H	13.32	13.58	14.41	14.66	16.14	9.44	9.70	10.53	10.78	12.26
12H	4H	12.36	12.73	13.44	13.80	15.23	8.64	9.00	9.72	10.08	11.51
	6H	12.95	13.24	14.04	14.33	15.77	9.19	9.48	10.28	10.57	12.01
	8H	13.16	13.42	14.26	14.50	15.98	9.39	9.65	10.49	10.73	12.21