

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: P911663

Luminaire Tested: DFN2DIP-SQ2F0-030D050US850-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P911663
REPORT IS A COMBINATION OF REPORTS P901316 AND P898215
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-030D050US850-RLLONL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

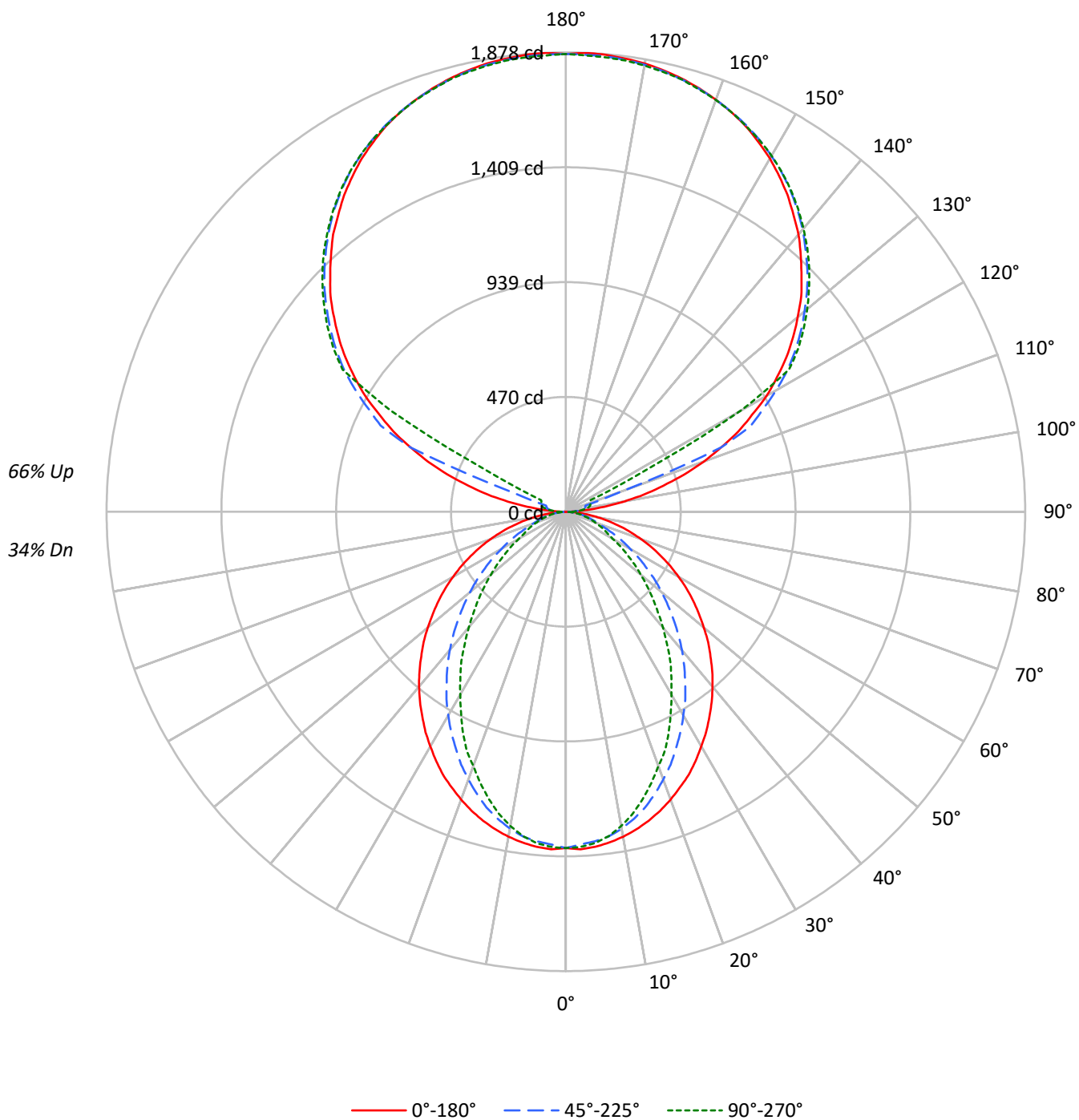
Lumens per Lamp: N/A
Luminaire Lumens: 8317.5 lumens
Efficiency: N/A
Efficacy: 137.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 60.5
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: P911663

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US850-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P911663

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US850-RLLONL

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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41
1	95	90	87	83	85	82	79	76	66	64	62	51	49	48	37	36	36
2	86	79	74	69	78	72	67	63	58	54	52	45	43	41	33	32	30
3	79	70	63	58	71	63	58	53	51	47	44	40	37	35	30	28	26
4	72	62	55	49	65	56	50	45	46	41	37	36	33	30	27	25	23
5	66	55	48	42	60	50	44	39	41	36	32	32	29	26	24	22	20
6	61	50	42	36	55	45	39	34	37	32	28	29	26	23	22	20	18
7	57	45	37	32	51	41	34	30	34	29	25	27	23	20	20	18	16
8	52	41	33	28	47	37	31	26	31	26	22	24	21	18	19	16	14
9	49	37	30	25	44	34	28	23	28	23	20	22	19	16	17	15	13
10	46	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3023	3023	3023
5°	3023	2969	2990
10°	2988	2904	2889
15°	2942	2802	2735
20°	2882	2663	2547
25°	2821	2510	2365
30°	2741	2352	2137
35°	2662	2184	1936
40°	2581	2010	1707
45°	2488	1819	1499
50°	2391	1626	1297
55°	2290	1420	1103
60°	2172	1207	904
65°	2036	991	809
70°	1872	789	726
75°	1664	683	651
80°	1367	555	552
85°	890	344	393

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2488 cd/sqm

TEST NUMBER: P911663

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US850-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.9	1.5
10°-20°	353.8	4.3
20°-30°	496.7	6.0
30°-40°	541.4	6.5
40°-50°	497.6	6.0
50°-60°	390.8	4.7
60°-70°	254.4	3.1
70°-80°	130.9	1.6
80°-90°	36.7	0.4
90°-100°	61.7	0.7
100°-110°	230.0	2.8
110°-120°	610.1	7.3
120°-130°	1011.9	12.2
130°-140°	1074.8	12.9
140°-150°	999.0	12.0
150°-160°	803.1	9.7
160°-170°	517.5	6.2
170°-180°	178.1	2.1
0°-30°	979.3	11.8
0°-40°	1520.7	18.3
0°-60°	2409.2	29.0
0°-90°	2831.2	34.0
90°-120°	901.9	10.8
90°-150°	3987.5	47.9
90°-180°	5486.0	66.0
0°-180°	8317.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1375	1375	1375	1375	1375	
5°	1375	1369	1353	1364	1360	130
15°	1308	1294	1252	1228	1216	369
25°	1187	1147	1065	1014	995	546
35°	1023	959	850	772	744	640
45°	836	753	622	534	504	646
55°	636	539	404	330	306	568
65°	429	328	216	174	170	426
75°	229	142	100	91	90	242
85°	54	27	24	24	24	61
90°	1	16	27	34	36	8
95°	88	43	53	60	58	104
105°	412	452	83	98	103	440
115°	779	802	836	209	111	767
125°	1101	1118	1144	1154	1158	982
135°	1362	1384	1396	1410	1407	1052
145°	1580	1579	1602	1611	1605	988
155°	1740	1728	1744	1752	1742	802
165°	1833	1825	1829	1839	1829	518
175°	1875	1866	1869	1878	1865	178
180°	1871	1871	1871	1871	1871	

TEST NUMBER: P911663

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US850-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1375.0	1375.0	1375.0	1375.0	1375.0
2.5°	1381.3	1375.0	1361.3	1373.8	1371.4
5°	1375.0	1368.8	1352.6	1363.8	1360.1
7.5°	1363.8	1356.4	1339.0	1343.9	1337.7
10°	1348.9	1340.2	1315.4	1311.5	1304.2
12.5°	1330.2	1319.0	1285.4	1278.0	1264.3
15°	1307.8	1294.1	1251.8	1228.2	1215.8
17.5°	1281.7	1261.8	1209.5	1182.2	1162.2
20°	1251.8	1226.9	1164.7	1133.7	1106.2
22.5°	1219.6	1190.8	1118.6	1076.4	1057.8
25°	1187.2	1147.3	1065.2	1014.2	995.4
27.5°	1148.6	1106.2	1015.4	957.0	928.2
30°	1107.6	1060.2	960.6	897.3	863.6
32.5°	1067.6	1010.4	908.5	833.7	802.6
35°	1022.9	959.4	849.9	771.5	744.1
37.5°	979.4	910.8	795.2	709.2	678.3
40°	933.3	858.7	737.9	649.5	617.3
42.5°	886.0	806.5	680.7	588.5	557.5
45°	836.3	752.8	622.3	533.8	503.9
47.5°	788.9	700.7	566.3	477.8	450.5
50°	736.7	648.3	511.5	425.5	399.5
52.5°	685.6	592.3	459.2	377.1	353.4
55°	635.8	538.8	404.3	329.8	306.2
57.5°	584.9	485.3	356.0	286.2	266.3
60°	532.5	433.1	304.9	241.4	221.6
62.5°	481.6	382.1	261.3	201.6	191.7
65°	429.3	328.5	216.5	174.2	170.5
67.5°	379.6	278.7	174.2	153.0	149.3
70°	327.3	230.2	144.3	131.9	126.9
72.5°	277.5	185.3	120.7	110.8	108.2
75°	228.9	141.8	99.6	90.8	89.6
77.5°	180.4	100.7	78.4	73.4	70.9
80°	135.6	72.2	59.7	54.8	54.8
82.5°	94.5	48.6	41.0	38.6	38.6
85°	53.5	27.3	23.6	23.6	23.6
87.5°	20.0	9.9	9.9	8.8	8.8
90°	1.3	16.2	27.1	33.9	36.5
92.5°	33.9	28.5	32.5	35.3	36.5
95°	87.9	43.3	52.8	59.7	58.2
97.5°	158.4	47.5	69.0	73.2	74.4
100°	239.8	54.2	77.2	87.9	90.7
102.5°	329.0	326.4	80.0	94.7	98.9
105°	411.7	452.4	82.6	97.5	102.9
107.5°	507.8	541.5	85.4	100.1	105.7
110°	600.0	628.2	237.0	101.6	106.9

TEST NUMBER: P911663

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US850-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	686.6	710.9	687.9	104.2	108.3
115°	778.6	801.6	835.5	208.6	111.1
117.5°	858.5	885.5	908.7	714.9	360.2
120°	947.9	968.2	992.6	1008.9	826.0
122.5°	1023.6	1045.3	1072.5	1080.6	1082.1
125°	1100.8	1118.5	1144.3	1153.7	1157.8
127.5°	1171.2	1190.2	1210.7	1224.1	1225.4
130°	1237.6	1259.4	1274.1	1289.1	1287.9
132.5°	1305.4	1323.0	1337.8	1350.1	1348.8
135°	1362.3	1384.0	1396.0	1409.8	1407.0
137.5°	1421.7	1438.0	1451.7	1465.2	1461.2
140°	1480.0	1490.9	1505.7	1517.9	1511.2
142.5°	1528.9	1538.4	1555.9	1566.7	1559.9
145°	1580.3	1578.9	1601.8	1611.4	1604.6
147.5°	1624.9	1620.8	1643.9	1650.6	1645.3
150°	1668.3	1658.8	1680.5	1688.6	1681.8
152.5°	1704.8	1694.0	1714.3	1722.5	1713.0
155°	1740.0	1727.9	1744.1	1752.2	1741.5
157.5°	1768.4	1757.7	1769.9	1779.4	1768.4
160°	1792.9	1784.7	1792.9	1800.9	1791.5
162.5°	1814.4	1806.5	1813.1	1822.6	1810.4
165°	1833.4	1825.4	1829.4	1838.8	1829.4
167.5°	1848.4	1840.2	1844.4	1853.8	1841.6
170°	1860.6	1852.4	1855.1	1864.6	1852.4
172.5°	1868.7	1860.6	1863.3	1872.8	1860.6
175°	1875.4	1865.9	1868.7	1878.1	1864.6
177.5°	1878.1	1868.7	1870.1	1879.5	1867.3
180°	1871.3	1871.3	1871.3	1871.3	1871.3

TEST NUMBER: P911663

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US850-RLONL

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	9.17	9.89	10.26	10.97	12.45	5.13	5.85	6.22	6.93	8.41
	3H	10.82	11.46	11.92	12.55	14.05	6.29	6.93	7.39	8.02	9.53
	4H	11.41	12.02	12.52	13.11	14.62	6.72	7.33	7.83	8.42	9.93
	6H	11.81	12.37	12.93	13.46	14.98	7.02	7.58	8.14	8.68	10.20
	8H	11.92	12.45	13.04	13.57	15.08	7.10	7.63	8.22	8.74	10.26
	12H	11.97	12.48	13.10	13.58	15.12	7.13	7.64	8.26	8.74	10.28
4H	2H	9.17	9.78	10.29	10.87	12.38	5.70	6.31	6.82	7.40	8.91
	3H	10.97	11.47	12.09	12.59	14.11	7.02	7.52	8.14	8.64	10.17
	4H	11.64	12.10	12.76	13.21	14.75	7.55	8.01	8.67	9.12	10.66
	6H	12.13	12.52	13.26	13.66	15.19	7.94	8.34	9.07	9.47	11.00
	8H	12.29	12.66	13.42	13.78	15.33	8.06	8.43	9.19	9.55	11.10
	12H	12.37	12.70	13.52	13.84	15.39	8.11	8.44	9.25	9.58	11.13
8H	4H	11.59	11.96	12.72	13.09	14.64	7.81	8.18	8.94	9.30	10.85
	6H	12.13	12.44	13.29	13.61	15.15	8.30	8.60	9.45	9.77	11.31
	8H	12.34	12.60	13.49	13.75	15.31	8.47	8.74	9.63	9.89	11.45
	12H	12.46	12.69	13.62	13.83	15.43	8.57	8.81	9.73	9.95	11.55
12H	4H	11.54	11.87	12.69	13.01	14.56	7.80	8.14	8.95	9.28	10.83
	6H	12.11	12.37	13.26	13.52	15.09	8.34	8.61	9.50	9.75	11.32
	8H	12.31	12.54	13.47	13.69	15.29	8.53	8.77	9.69	9.91	11.51

END OF REPORT