

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: P911674

Luminaire Tested: DFN2DIP-SQ2F0-030D080US850-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P911674
REPORT IS A COMBINATION OF REPORTS P899832 AND P896659
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-030D080US850-RLLFLL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

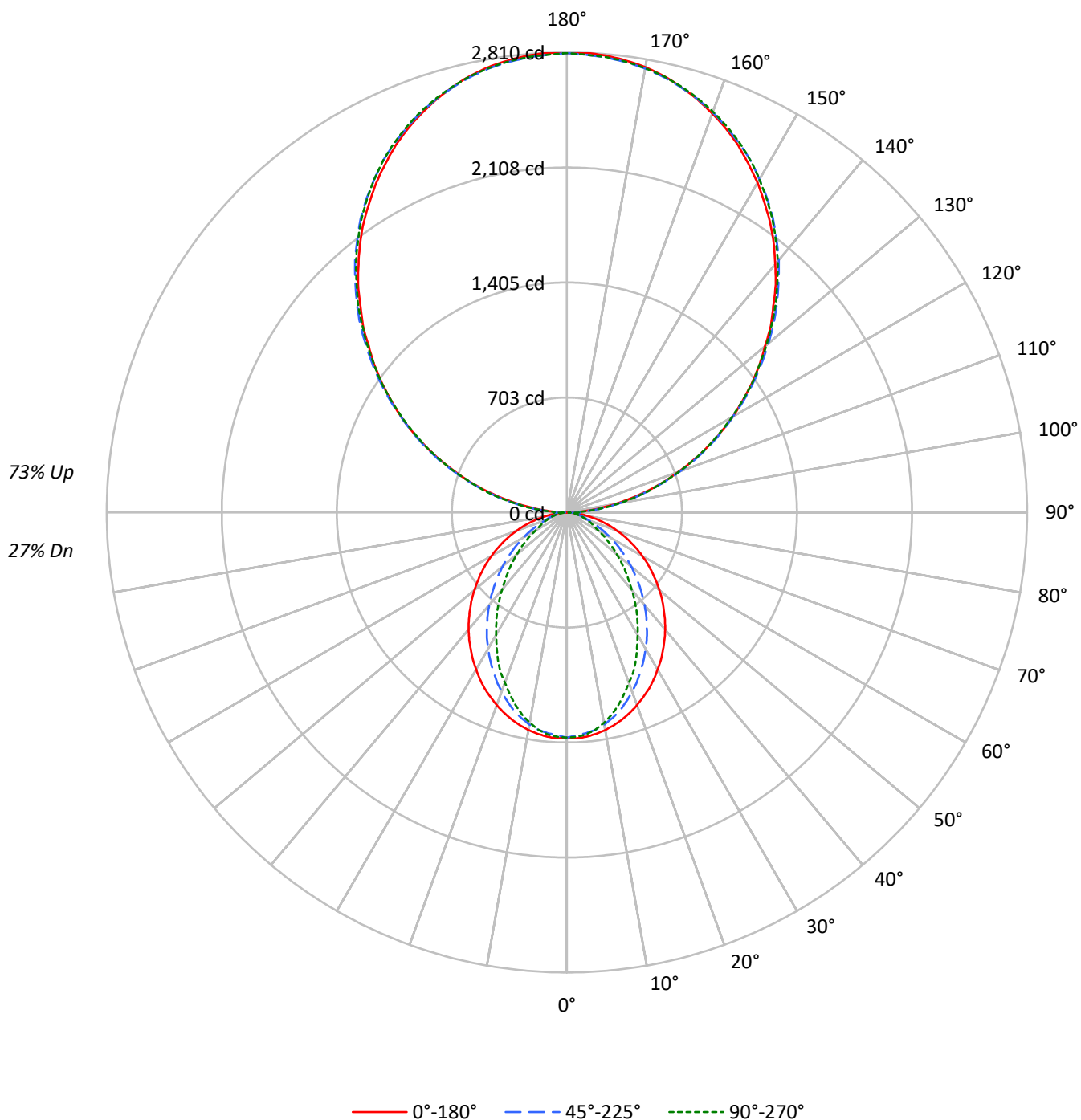
Lumens per Lamp: N/A
Luminaire Lumens: 10679.6 lumens
Efficiency: N/A
Efficacy: 121.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 88
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: P911674

CATALOG NUMBER: DFN2DIP-SQ2F0-030D080US850-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P911674

CATALOG NUMBER: DFN2DIP-SQ2F0-030D080US850-RLLFLL

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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35
1	93	89	85	82	83	79	76	74	62	60	58	46	44	43	31	30	30
2	85	78	72	67	75	70	65	61	54	51	48	40	38	37	27	26	25
3	77	68	62	56	69	61	56	51	48	44	41	36	33	31	25	23	22
4	71	61	53	48	63	54	48	43	43	38	35	32	29	27	22	20	19
5	65	54	46	41	58	49	42	37	38	34	30	29	26	23	20	18	17
6	60	48	41	35	53	44	37	32	35	30	26	26	23	20	18	16	15
7	55	44	36	31	49	39	33	28	31	27	23	24	21	18	17	15	13
8	51	39	32	27	46	36	29	25	28	24	20	22	18	16	15	13	12
9	48	36	29	24	42	33	26	22	26	21	18	20	17	14	14	12	11
10	44	33	26	21	40	30	24	20	24	19	16	18	15	13	13	11	10

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: 90°

Vertical Angle: 90°

Luminance: 3911 cd/sqm

TEST NUMBER: P911674

CATALOG NUMBER: DFN2DIP-SQ2F0-030D080US850-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.9	1.2
10°-20°	353.8	3.3
20°-30°	496.7	4.7
30°-40°	541.4	5.1
40°-50°	497.6	4.7
50°-60°	390.8	3.7
60°-70°	254.4	2.4
70°-80°	130.9	1.2
80°-90°	41.4	0.4
90°-100°	173.6	1.6
100°-110°	551.7	5.2
110°-120°	944.1	8.8
120°-130°	1241.6	11.6
130°-140°	1393.7	13.0
140°-150°	1366.6	12.8
150°-160°	1146.4	10.7
160°-170°	760.3	7.1
170°-180°	265.7	2.5
0°-30°	979.3	9.2
0°-40°	1520.7	14.2
0°-60°	2409.2	22.6
0°-90°	2835.9	26.6
90°-120°	1669.4	15.6
90°-150°	5671.3	53.1
90°-180°	7844.0	73.4
0°-180°	10679.6	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°	3	30	83	78	80	11
95°	124	147	151	151	147	137
105°	509	516	521	525	525	537
115°	947	961	957	954	947	937
125°	1378	1399	1392	1385	1382	1231
135°	1782	1809	1814	1811	1804	1378
145°	2164	2181	2194	2197	2188	1352
155°	2474	2481	2489	2500	2493	1139
165°	2692	2689	2689	2706	2694	759
175°	2801	2794	2789	2806	2792	266
180°	2806	2806	2806	2806	2806	

TEST NUMBER: P911674

CATALOG NUMBER: DFN2DIP-SQ2F0-030D080US850-RLLFLL

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°	2.6	30.5	83.0	77.9	80.4
92.5°	52.5	71.1	73.6	76.1	76.1
95°	123.5	147.2	151.4	151.4	147.2
97.5°	205.6	227.6	236.9	236.9	236.9
100°	300.3	319.7	326.5	326.5	323.9
102.5°	400.1	414.5	423.7	426.3	423.7
105°	509.3	516.0	521.1	525.3	525.3
107.5°	617.5	627.7	627.7	629.4	617.5
110°	722.4	735.9	735.9	735.9	729.2

TEST NUMBER: P911674

CATALOG NUMBER: DFN2DIP-SQ2F0-030D080US850-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	835.7	850.2	847.6	840.8	835.7
115°	947.4	960.9	956.7	954.2	947.4
117.5°	1058.2	1076.8	1065.0	1058.2	1051.4
120°	1169.9	1188.5	1169.9	1169.9	1162.2
122.5°	1271.4	1295.1	1283.2	1276.5	1271.4
125°	1377.9	1399.1	1392.3	1384.7	1382.3
127.5°	1482.1	1508.2	1498.9	1488.8	1482.1
130°	1579.3	1609.7	1605.5	1600.5	1591.2
132.5°	1688.5	1712.1	1713.8	1702.0	1695.2
135°	1782.3	1808.6	1813.7	1811.1	1804.3
137.5°	1887.2	1908.4	1912.6	1910.9	1900.7
140°	1979.5	2000.5	2012.4	2012.4	2003.1
142.5°	2074.2	2095.3	2102.1	2104.7	2095.3
145°	2163.9	2180.7	2194.3	2196.8	2187.5
147.5°	2244.2	2265.4	2275.4	2279.8	2270.5
150°	2327.1	2341.4	2350.7	2358.4	2350.7
152.5°	2400.7	2415.1	2426.9	2436.3	2426.9
155°	2474.3	2481.1	2488.7	2500.5	2492.9
157.5°	2537.7	2542.8	2547.0	2563.9	2552.1
160°	2594.4	2599.5	2602.0	2616.4	2606.3
162.5°	2646.9	2646.9	2649.4	2665.5	2653.6
165°	2691.7	2689.1	2689.1	2706.1	2694.2
167.5°	2732.2	2724.7	2724.7	2741.6	2729.7
170°	2762.7	2756.0	2753.4	2770.4	2756.0
172.5°	2783.9	2777.2	2774.6	2791.5	2777.2
175°	2800.8	2794.0	2788.9	2805.9	2791.5
177.5°	2810.1	2803.3	2798.2	2812.6	2798.2
180°	2805.9	2805.9	2805.9	2805.9	2805.9

TEST NUMBER: P911674

CATALOG NUMBER: DFN2DIP-SQ2F0-030D080US850-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	8.14	8.81	9.28	9.94	11.51	4.10	4.77	5.24	5.90	7.47
	3H	9.79	10.39	10.94	11.52	13.11	5.26	5.86	6.41	6.99	8.58
	4H	10.38	10.94	11.53	12.08	13.67	5.69	6.26	6.85	7.39	8.99
	6H	10.77	11.30	11.94	12.43	14.04	5.99	6.51	7.15	7.65	9.25
	8H	10.89	11.38	12.05	12.54	14.13	6.06	6.56	7.23	7.71	9.31
	12H	10.94	11.41	12.11	12.55	14.17	6.09	6.57	7.27	7.71	9.33
4H	2H	8.14	8.70	9.30	9.84	11.43	4.67	5.24	5.83	6.37	7.96
	3H	9.93	10.40	11.10	11.56	13.17	5.98	6.46	7.15	7.62	9.22
	4H	10.60	11.03	11.77	12.18	13.81	6.51	6.94	7.68	8.09	9.72
	6H	11.09	11.46	12.26	12.63	14.24	6.90	7.27	8.07	8.44	10.06
	8H	11.25	11.59	12.42	12.76	14.39	7.01	7.36	8.19	8.53	10.16
	12H	11.32	11.64	12.51	12.81	14.45	7.06	7.38	8.25	8.55	10.19
8H	4H	10.55	10.90	11.72	12.06	13.69	6.76	7.11	7.94	8.28	9.91
	6H	11.09	11.37	12.28	12.58	14.21	7.25	7.54	8.45	8.75	10.37
	8H	11.29	11.54	12.49	12.72	14.37	7.43	7.68	8.63	8.86	10.51
	12H	11.41	11.63	12.61	12.81	14.49	7.53	7.75	8.73	8.93	10.61
12H	4H	10.49	10.81	11.68	11.98	13.62	6.76	7.07	7.95	8.25	9.88
	6H	11.06	11.31	12.26	12.49	14.14	7.30	7.55	8.49	8.73	10.38
	8H	11.26	11.48	12.46	12.66	14.34	7.48	7.70	8.69	8.88	10.56

END OF REPORT