

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: P922882

Luminaire Tested: DFN2DIP-SQ3F0-080D110US940-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P922882
REPORT IS A COMBINATION OF REPORTS P899996 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-080D110US940-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

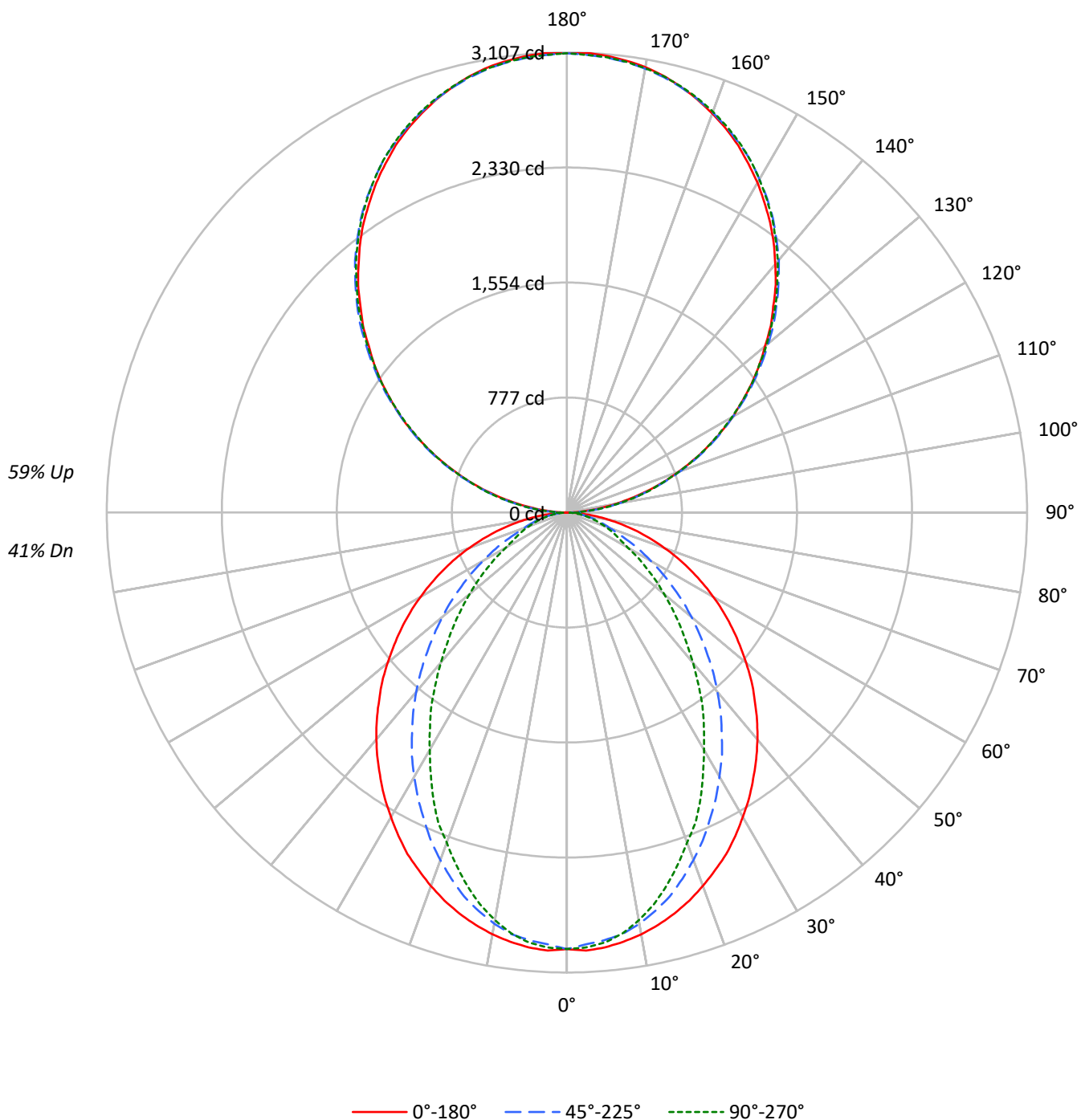
Lumens per Lamp: N/A
Luminaire Lumens: 14744.5 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 162.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P922882

CATALOG NUMBER: DFN2DIP-SQ3F0-080D110US940-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P922882

CATALOG NUMBER: DFN2DIP-SQ3F0-080D110US940-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	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41
2	88	81	75	70	80	74	69	65	61	58	55	49	47	45	38	37	35
3	80	71	64	59	73	65	59	55	54	50	46	44	41	38	34	32	31
4	74	63	56	50	67	58	52	47	48	44	40	39	36	33	31	29	27
5	68	57	49	43	62	52	45	40	43	38	34	36	32	29	28	26	23
6	63	51	43	37	57	47	40	35	39	34	30	32	28	25	26	23	21
7	58	46	38	33	53	42	36	31	36	31	27	29	26	23	23	21	19
8	54	42	34	29	49	39	32	27	33	27	24	27	23	20	22	19	17
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	20	17	15
10	47	35	28	23	43	32	26	22	28	23	19	23	19	17	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3378	3378	3378
5°	3382	3322	3345
10°	3346	3255	3235
15°	3298	3145	3066
20°	3235	2995	2858
25°	3170	2827	2658
30°	3084	2655	2404
35°	2999	2469	2182
40°	2914	2278	1927
45°	2814	2067	1696
50°	2710	1853	1470
55°	2602	1625	1253
60°	2477	1387	1030
65°	2333	1145	926
70°	2158	920	837
75°	1937	806	759
80°	1619	669	654
85°	1098	436	485

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 3119 cd/sqm

TEST NUMBER: P922882

CATALOG NUMBER: DFN2DIP-SQ3F0-080D110US940-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	276.3	1.9
10°-20°	758.6	5.1
20°-30°	1065.0	7.2
30°-40°	1160.9	7.9
40°-50°	1067.0	7.2
50°-60°	838.0	5.7
60°-70°	545.4	3.7
70°-80°	280.8	1.9
80°-90°	80.5	0.5
90°-100°	192.0	1.3
100°-110°	609.9	4.1
110°-120°	1043.8	7.1
120°-130°	1372.7	9.3
130°-140°	1540.8	10.5
140°-150°	1511.0	10.2
150°-160°	1267.5	8.6
160°-170°	840.6	5.7
170°-180°	293.8	2.0
0°-30°	2099.9	14.2
0°-40°	3260.8	22.1
0°-60°	5165.8	35.0
0°-90°	6072.5	41.2
90°-120°	1845.7	12.5
90°-150°	6270.1	42.5
90°-180°	8672.0	58.8
0°-180°	14744.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2948	2948	2948	2948	2948	
5°	2948	2935	2900	2924	2916	280
15°	2804	2775	2684	2634	2607	790
25°	2546	2460	2284	2175	2134	1171
35°	2193	2057	1822	1654	1595	1373
45°	1793	1614	1334	1144	1081	1385
55°	1363	1155	867	707	656	1218
65°	921	704	464	374	365	913
75°	491	304	214	195	192	519
85°	115	59	51	51	51	132
90°	3	34	92	86	89	15
95°	136	163	167	167	163	152
105°	563	570	576	581	581	594
115°	1048	1062	1058	1055	1048	1036
125°	1524	1547	1539	1531	1528	1361
135°	1970	2000	2005	2002	1995	1523
145°	2392	2411	2426	2429	2418	1495
155°	2736	2743	2752	2765	2756	1259
165°	2976	2973	2973	2992	2979	840
175°	3097	3089	3083	3102	3086	294
180°	3102	3102	3102	3102	3102	

TEST NUMBER: P922882

CATALOG NUMBER: DFN2DIP-SQ3F0-080D110US940-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2948.4	2948.4	2948.4	2948.4	2948.4
2.5°	2961.6	2948.4	2918.9	2945.8	2940.4
5°	2948.4	2935.1	2900.2	2924.3	2916.3
7.5°	2924.3	2908.4	2871.0	2881.6	2868.2
10°	2892.3	2873.6	2820.4	2812.2	2796.3
12.5°	2852.4	2828.3	2756.1	2740.2	2710.8
15°	2804.3	2774.8	2684.2	2633.6	2606.9
17.5°	2748.2	2705.4	2593.4	2534.8	2492.0
20°	2684.2	2630.7	2497.4	2430.9	2371.9
22.5°	2614.9	2553.4	2398.6	2308.0	2268.1
25°	2545.5	2460.1	2283.9	2174.7	2134.5
27.5°	2462.8	2371.9	2177.2	2051.8	1990.4
30°	2374.8	2273.1	2059.8	1923.9	1851.6
32.5°	2289.3	2166.5	1947.9	1787.7	1720.9
35°	2193.3	2057.2	1822.5	1654.4	1595.4
37.5°	2099.9	1953.0	1705.0	1520.7	1454.2
40°	2001.2	1841.2	1582.2	1392.8	1323.4
42.5°	1899.8	1729.1	1459.6	1262.0	1195.4
45°	1793.1	1614.2	1334.2	1144.5	1080.6
47.5°	1691.8	1502.4	1214.2	1024.5	965.9
50°	1579.6	1390.3	1096.7	912.4	856.6
52.5°	1470.1	1269.9	984.5	808.5	757.9
55°	1363.3	1155.3	867.1	707.1	656.5
57.5°	1254.1	1040.6	763.2	613.8	571.0
60°	1141.9	928.5	653.6	517.7	475.0
62.5°	1032.7	819.2	560.3	432.3	411.1
65°	920.6	704.3	464.2	373.7	365.4
67.5°	813.9	597.6	373.7	328.1	320.2
70°	701.8	493.7	309.4	282.8	272.1
72.5°	595.0	397.4	258.8	237.6	232.1
75°	490.9	304.1	213.5	194.7	192.3
77.5°	387.0	216.0	168.2	157.4	152.0
80°	290.7	154.9	128.0	117.4	117.4
82.5°	202.7	104.2	88.0	82.7	82.7
85°	114.7	58.6	50.6	50.6	50.6
87.5°	42.7	21.2	21.2	18.7	18.7
90°	2.8	33.7	91.7	86.1	88.8
92.5°	58.0	78.6	81.3	84.2	84.2
95°	136.5	162.7	167.4	167.4	162.7
97.5°	227.3	251.6	261.9	261.9	261.9
100°	332.0	353.5	361.0	361.0	358.2
102.5°	442.4	458.2	468.6	471.4	468.6
105°	563.0	570.5	576.1	580.8	580.8
107.5°	682.7	693.9	693.9	695.8	682.7
110°	798.7	813.7	813.7	813.7	806.2

TEST NUMBER: P922882

CATALOG NUMBER: DFN2DIP-SQ3F0-080D110US940-RLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	924.0	939.9	937.1	929.6	924.0
115°	1047.5	1062.4	1057.7	1055.0	1047.5
117.5°	1170.0	1190.5	1177.4	1170.0	1162.5
120°	1293.4	1314.0	1293.4	1293.4	1285.0
122.5°	1405.7	1431.8	1418.7	1411.2	1405.7
125°	1523.5	1546.8	1539.4	1531.0	1528.1
127.5°	1638.5	1667.5	1657.2	1646.0	1638.5
130°	1746.1	1779.8	1775.0	1769.4	1759.2
132.5°	1866.7	1892.9	1894.8	1881.7	1874.2
135°	1970.5	1999.5	2005.1	2002.3	1994.8
137.5°	2086.5	2109.9	2114.5	2112.6	2101.5
140°	2188.4	2211.8	2224.9	2224.9	2214.7
142.5°	2293.2	2316.6	2324.1	2326.8	2316.6
145°	2392.3	2411.0	2426.0	2428.8	2418.5
147.5°	2481.2	2504.5	2515.8	2520.4	2510.2
150°	2572.9	2588.7	2599.0	2607.5	2599.0
152.5°	2654.2	2670.0	2683.2	2693.5	2683.2
155°	2735.6	2743.0	2751.5	2764.6	2756.1
157.5°	2805.7	2811.3	2815.9	2834.7	2821.5
160°	2868.4	2874.0	2876.7	2892.7	2881.5
162.5°	2926.3	2926.3	2929.2	2946.9	2933.8
165°	2975.9	2973.1	2973.1	2991.8	2978.7
167.5°	3020.8	3012.4	3012.4	3031.1	3018.0
170°	3054.5	3047.0	3044.2	3062.8	3047.0
172.5°	3077.8	3070.3	3067.6	3086.3	3070.3
175°	3096.6	3089.1	3083.4	3102.2	3086.3
177.5°	3106.8	3099.3	3093.7	3109.7	3093.7
180°	3102.2	3102.2	3102.2	3102.2	3102.2

TEST NUMBER: P922882

CATALOG NUMBER: DFN2DIP-SQ3F0-080D110US940-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	10.46	11.22	11.49	12.26	13.65	6.42	7.18	7.45	8.22	9.61
	3H	12.13	12.81	13.17	13.85	15.27	7.60	8.28	8.64	9.33	10.74
	4H	12.73	13.37	13.79	14.42	15.84	8.04	8.69	9.10	9.73	11.16
	6H	13.14	13.74	14.21	14.79	16.22	8.35	8.94	9.42	10.00	11.43
	8H	13.27	13.83	14.34	14.90	16.33	8.44	9.00	9.51	10.07	11.50
	12H	13.32	13.86	14.40	14.92	16.37	8.47	9.01	9.55	10.07	11.52
4H	2H	10.47	11.11	11.53	12.16	13.58	7.00	7.65	8.07	8.70	10.12
	3H	12.28	12.82	13.35	13.90	15.33	8.34	8.88	9.41	9.95	11.39
	4H	12.97	13.46	14.05	14.53	15.98	8.88	9.37	9.96	10.44	11.90
	6H	13.48	13.90	14.56	14.99	16.44	9.29	9.71	10.37	10.80	12.25
	8H	13.65	14.04	14.73	15.12	16.59	9.41	9.81	10.50	10.89	12.35
	12H	13.74	14.09	14.84	15.19	16.66	9.47	9.83	10.57	10.92	12.39
8H	4H	12.93	13.33	14.02	14.41	15.87	9.15	9.55	10.24	10.63	12.09
	6H	13.49	13.81	14.60	14.94	16.40	9.66	9.98	10.77	11.11	12.57
	8H	13.70	13.99	14.82	15.09	16.58	9.85	10.13	10.96	11.24	12.72
	12H	13.83	14.09	14.95	15.19	16.71	9.96	10.21	11.07	11.31	12.83
12H	4H	12.88	13.24	13.98	14.33	15.80	9.15	9.51	10.26	10.61	12.08
	6H	13.46	13.75	14.58	14.86	16.34	9.71	9.99	10.82	11.10	12.58
	8H	13.68	13.93	14.80	15.03	16.55	9.91	10.16	11.03	11.26	12.78