

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: P912722

Luminaire Tested: DFN2DIP-TR3F0-090D080US850-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P912722
REPORT IS A COMBINATION OF REPORTS P900354 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-090D080US850-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

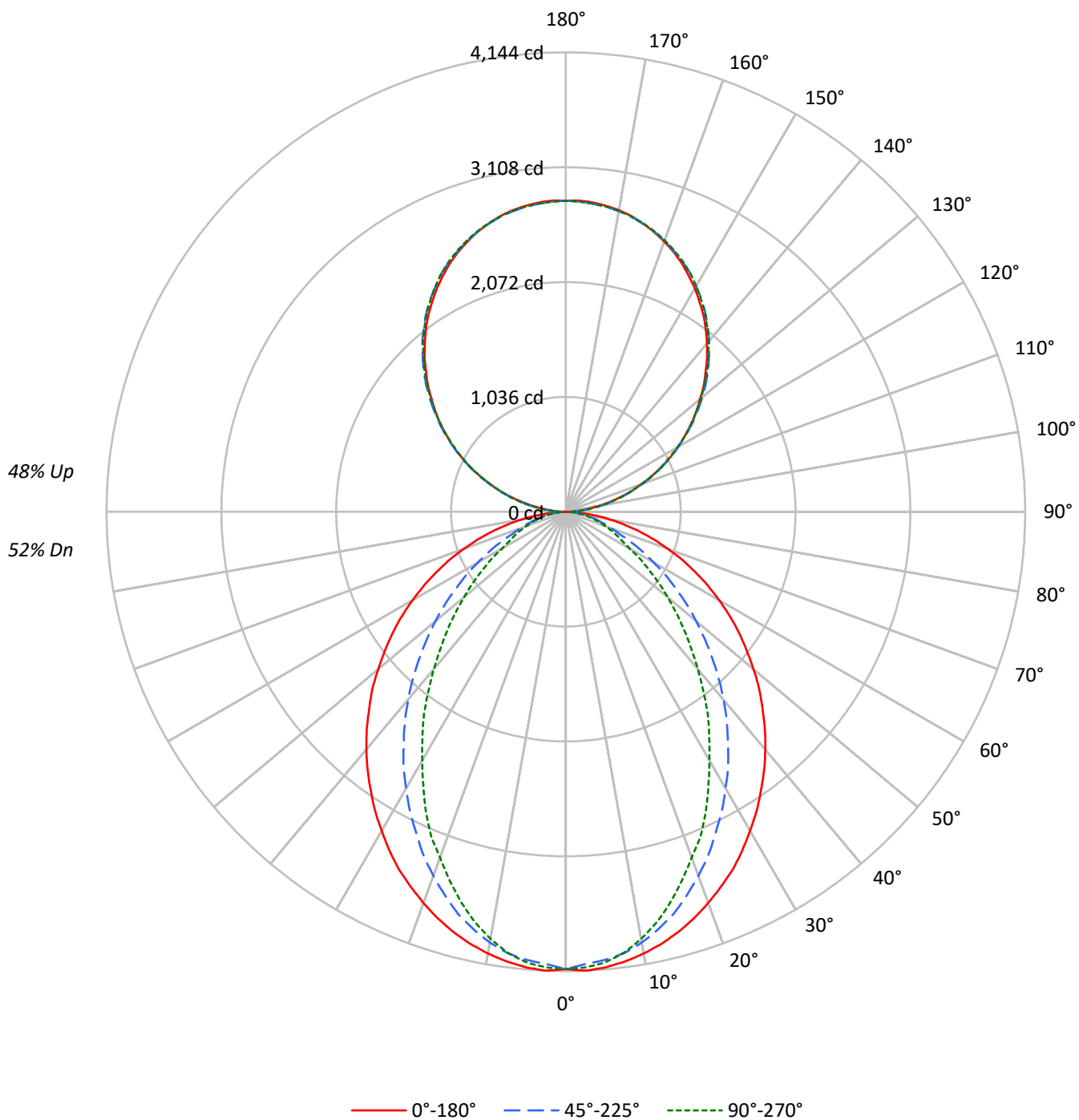
Lumens per Lamp: N/A
Luminaire Lumens: 16335.6 lumens
Efficiency: N/A
Efficacy: 104.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 156
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P912722

CATALOG NUMBER: DFN2DIP-TR3F0-090D080US850-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P912722

CATALOG NUMBER: DFN2DIP-TR3F0-090D080US850-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	108	108	108	108	100	100	100	100	84	84	84	71	71	71	58	58	58
1	99	95	91	88	91	88	84	82	75	72	70	63	61	60	52	51	50
2	90	83	77	72	83	77	72	68	66	62	59	56	53	51	46	44	43
3	83	74	66	61	76	68	62	57	59	54	50	50	46	44	42	39	37
4	76	65	58	52	70	61	54	49	53	47	43	45	41	38	37	35	32
5	70	59	51	45	65	55	48	42	47	42	38	40	36	33	34	31	28
6	65	53	45	39	60	49	42	37	43	37	33	37	32	29	31	28	25
7	60	48	40	35	55	45	38	33	39	33	29	34	29	26	28	25	23
8	56	44	36	31	51	41	34	29	36	30	26	31	27	23	26	23	21
9	52	40	33	28	48	37	31	26	33	27	24	28	24	21	24	21	19
10	49	37	30	25	45	34	28	24	30	25	21	26	22	19	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5140	5140	5140
5°	5146	5054	5088
10°	5092	4951	4919
15°	5019	4783	4660
20°	4923	4553	4343
25°	4826	4297	4037
30°	4695	4034	3651
35°	4567	3752	3311
40°	4437	3461	2922
45°	4285	3138	2570
50°	4129	2813	2226
55°	3965	2466	1896
60°	3775	2104	1558
65°	3556	1736	1398
70°	3291	1393	1260
75°	2957	1219	1139
80°	2475	1009	977
85°	1684	653	715

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4285 cd/sqm

TEST NUMBER: P912722

CATALOG NUMBER: DFN2DIP-TR3F0-090D080US850-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	386.6	2.4
10°-20°	1061.3	6.5
20°-30°	1490.1	9.1
30°-40°	1624.3	9.9
40°-50°	1492.9	9.1
50°-60°	1172.4	7.2
60°-70°	763.1	4.7
70°-80°	392.8	2.4
80°-90°	108.3	0.7
90°-100°	173.6	1.1
100°-110°	551.7	3.4
110°-120°	944.1	5.8
120°-130°	1241.6	7.6
130°-140°	1393.7	8.5
140°-150°	1366.6	8.4
150°-160°	1146.4	7.0
160°-170°	760.3	4.7
170°-180°	265.7	1.6
0°-30°	2938.0	18.0
0°-40°	4562.3	27.9
0°-60°	7227.6	44.2
0°-90°	8491.9	52.0
90°-120°	1669.4	10.2
90°-150°	5671.3	34.7
90°-180°	7844.0	48.0
0°-180°	16335.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4125	4125	4125	4125	4125	
5°	4125	4106	4058	4091	4080	391
15°	3924	3882	3756	3685	3648	1106
25°	3562	3442	3196	3043	2986	1638
35°	3069	2878	2550	2315	2232	1921
45°	2509	2258	1867	1601	1512	1937
55°	1908	1616	1213	989	918	1705
65°	1288	986	650	523	511	1277
75°	687	425	299	272	269	726
85°	160	82	71	71	71	184
90°	3	30	83	78	80	16
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: P912722

CATALOG NUMBER: DFN2DIP-TR3F0-090D080US850-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4125.1	4125.1	4125.1	4125.1	4125.1
2.5°	4143.8	4125.1	4083.9	4121.6	4114.1
5°	4125.1	4106.5	4057.8	4091.4	4080.3
7.5°	4091.4	4069.3	4017.0	4031.7	4013.0
10°	4046.7	4020.6	3946.2	3934.6	3912.4
12.5°	3990.8	3957.2	3856.2	3834.0	3792.8
15°	3923.5	3882.4	3755.6	3684.7	3647.5
17.5°	3845.1	3785.3	3628.4	3546.5	3486.7
20°	3755.6	3680.8	3494.1	3401.1	3318.7
22.5°	3658.6	3572.6	3355.9	3229.2	3173.4
25°	3561.6	3441.9	3195.6	3042.7	2986.4
27.5°	3445.9	3318.7	3046.2	2870.8	2784.8
30°	3322.7	3180.5	2881.8	2691.8	2590.7
32.5°	3203.0	3031.1	2725.4	2501.2	2407.7
35°	3068.8	2878.3	2549.9	2314.7	2232.3
37.5°	2938.1	2732.6	2385.6	2127.7	2034.7
40°	2799.9	2576.1	2213.7	1948.7	1851.7
42.5°	2658.1	2419.3	2042.1	1765.7	1672.6
45°	2508.8	2258.5	1866.7	1601.3	1511.8
47.5°	2366.9	2102.0	1698.8	1433.4	1351.4
50°	2210.1	1945.1	1534.4	1276.6	1198.5
52.5°	2056.9	1776.8	1377.6	1131.2	1060.3
55°	1907.5	1616.4	1213.1	989.4	918.5
57.5°	1754.7	1456.0	1067.9	858.7	798.9
60°	1597.7	1299.1	914.6	724.4	664.6
62.5°	1444.9	1146.3	783.8	604.8	575.1
65°	1288.0	985.5	649.5	522.8	511.4
67.5°	1138.7	836.1	522.8	459.0	447.9
70°	981.9	690.8	433.0	395.7	380.6
72.5°	832.5	556.1	362.0	332.3	324.8
75°	686.8	425.4	298.7	272.5	268.9
77.5°	541.4	302.2	235.2	220.2	212.7
80°	406.8	216.7	179.0	164.4	164.4
82.5°	283.6	145.7	123.2	115.7	115.7
85°	160.4	82.0	70.9	70.9	70.9
87.5°	59.8	29.7	29.7	26.2	26.2
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: P912722

CATALOG NUMBER: DFN2DIP-TR3F0-090D080US850-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: P912722

CATALOG NUMBER: DFN2DIP-TR3F0-090D080US850-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	12.97	13.81	13.91	14.77	16.02	8.94	9.79	9.89	10.75	11.99
	3H	14.64	15.39	15.59	16.36	17.63	10.13	10.88	11.08	11.85	13.12
	4H	15.24	15.95	16.21	16.93	18.20	10.57	11.29	11.55	12.26	13.54
	6H	15.65	16.31	16.64	17.29	18.58	10.89	11.55	11.87	12.53	13.82
	8H	15.78	16.40	16.77	17.40	18.68	10.98	11.61	11.97	12.60	13.89
	12H	15.83	16.43	16.83	17.42	18.73	11.02	11.62	12.02	12.60	13.91
4H	2H	12.98	13.70	13.96	14.67	15.95	9.53	10.25	10.51	11.22	12.50
	3H	14.80	15.40	15.79	16.40	17.69	10.88	11.47	11.87	12.48	13.77
	4H	15.49	16.03	16.49	17.03	18.34	11.42	11.97	12.42	12.96	14.28
	6H	16.00	16.46	17.00	17.48	18.80	11.84	12.30	12.84	13.32	14.64
	8H	16.17	16.60	17.18	17.61	18.94	11.96	12.40	12.97	13.41	14.74
	12H	16.26	16.65	17.28	17.68	19.01	12.03	12.42	13.05	13.45	14.78
8H	4H	15.46	15.89	16.47	16.90	18.23	11.70	12.13	12.71	13.15	14.47
	6H	16.01	16.37	17.05	17.43	18.75	12.21	12.57	13.24	13.62	14.95
	8H	16.22	16.54	17.27	17.58	18.92	12.40	12.71	13.44	13.75	15.10
	12H	16.36	16.64	17.40	17.67	19.06	12.51	12.79	13.56	13.82	15.21
12H	4H	15.41	15.80	16.44	16.83	18.16	11.70	12.10	12.73	13.12	14.46
	6H	15.99	16.31	17.03	17.35	18.69	12.26	12.57	13.30	13.61	14.96
	8H	16.20	16.48	17.25	17.52	18.90	12.46	12.74	13.51	13.78	15.16