

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: P919511

Luminaire Tested: DFN2DIP-PN3F0-090D090US935-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P919511
REPORT IS A COMBINATION OF REPORTS P901128 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-090D090US935-RLLONL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

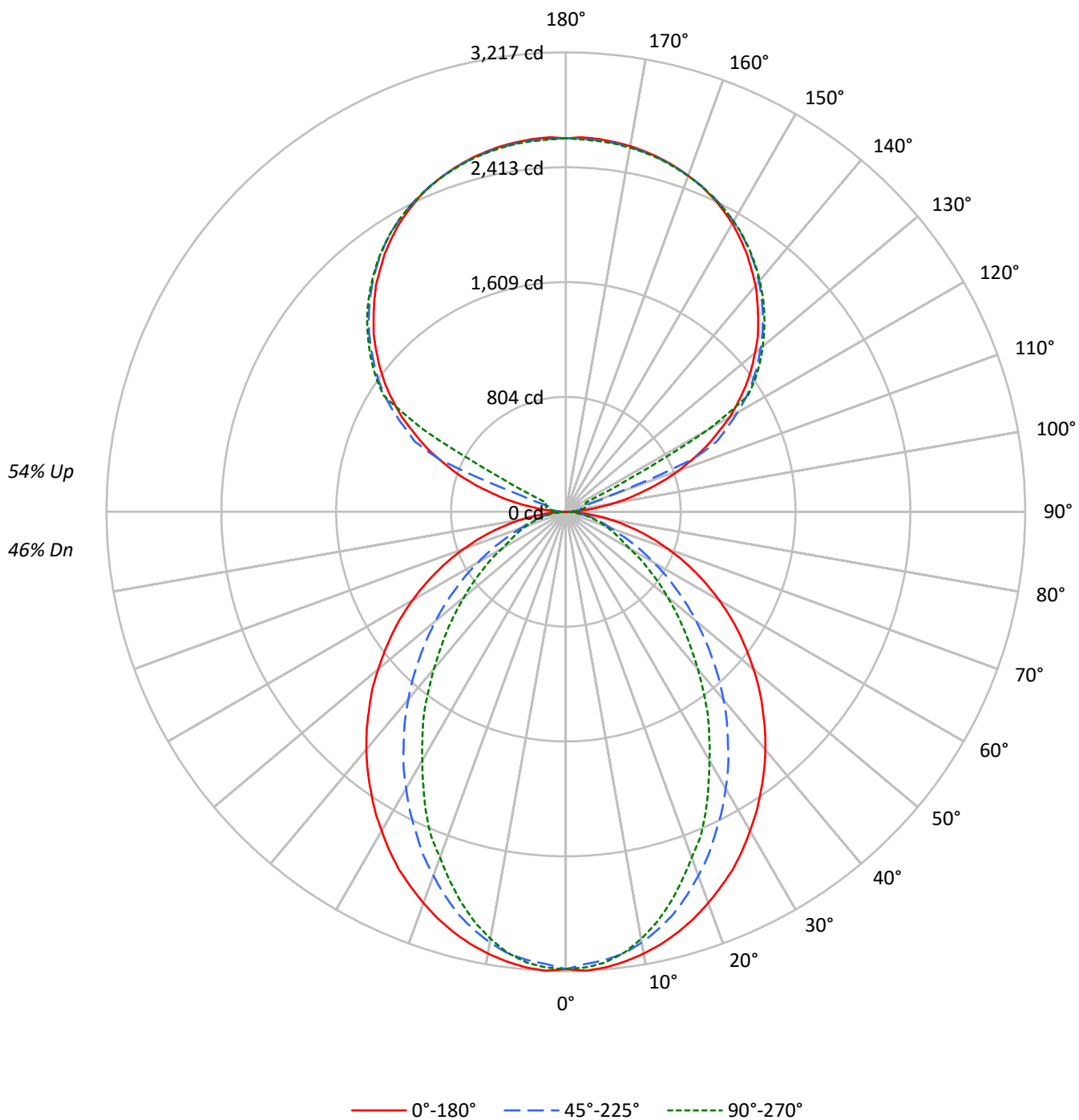
Lumens per Lamp: N/A
Luminaire Lumens: 14258.1 lumens
Efficiency: N/A
Efficacy: 86.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 164.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9954
Total Harmonic Distortion (THDi): 0.076
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P919511

CATALOG NUMBER: DFN2DIP-PN3F0-090D090US935-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P919511

CATALOG NUMBER: DFN2DIP-PN3F0-090D090US935-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	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53
1	97	93	90	86	89	86	83	80	72	70	68	59	58	56	47	46	45
2	89	82	76	71	82	76	70	66	63	60	57	52	50	48	42	40	39
3	81	72	65	60	75	67	61	56	56	52	48	47	43	41	38	35	34
4	75	64	57	51	68	60	53	48	50	45	41	42	38	35	34	31	29
5	69	58	50	44	63	53	46	41	45	40	36	38	34	31	31	28	26
6	63	52	44	38	58	48	41	36	41	36	32	34	30	27	28	25	23
7	59	47	39	34	54	44	37	32	37	32	28	31	27	24	26	23	21
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19
9	51	39	32	27	47	36	30	25	31	26	22	27	23	20	22	19	17
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	20	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3744	3744	3744
5°	3748	3682	3706
10°	3708	3607	3584
15°	3655	3485	3396
20°	3585	3318	3166
25°	3514	3132	2944
30°	3419	2941	2663
35°	3325	2736	2416
40°	3230	2524	2133
45°	3120	2289	1877
50°	3005	2052	1627
55°	2886	1800	1386
60°	2747	1536	1140
65°	2588	1268	1024
70°	2394	1018	924
75°	2150	892	837
80°	1798	740	721
85°	1221	481	532

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3120 cd/sqm

TEST NUMBER: P919511

CATALOG NUMBER: DFN2DIP-PN3F0-090D090US935-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	300.2	2.1
10°-20°	824.0	5.8
20°-30°	1156.9	8.1
30°-40°	1261.0	8.8
40°-50°	1159.0	8.1
50°-60°	910.3	6.4
60°-70°	592.5	4.2
70°-80°	305.0	2.1
80°-90°	82.5	0.6
90°-100°	86.2	0.6
100°-110°	321.5	2.3
110°-120°	852.6	6.0
120°-130°	1414.1	9.9
130°-140°	1502.1	10.5
140°-150°	1396.0	9.8
150°-160°	1122.4	7.9
160°-170°	723.2	5.1
170°-180°	248.9	1.7
0°-30°	2281.0	16.0
0°-40°	3542.0	24.8
0°-60°	5611.3	39.4
0°-90°	6591.2	46.2
90°-120°	1260.3	8.8
90°-150°	5572.4	39.1
90°-180°	7667.0	53.8
0°-180°	14258.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3203	3203	3203	3203	3203	
5°	3203	3188	3150	3176	3168	304
15°	3046	3014	2916	2861	2832	858
25°	2765	2672	2481	2362	2319	1272
35°	2383	2235	1980	1797	1733	1491
45°	1948	1753	1449	1243	1174	1504
55°	1481	1255	942	768	713	1323
65°	1000	765	504	406	397	991
75°	533	330	232	212	209	564
85°	124	64	55	55	55	143
90°	2	23	38	47	51	13
95°	123	60	74	83	81	146
105°	575	632	116	136	144	615
115°	1088	1120	1168	291	155	1071
125°	1538	1563	1599	1612	1618	1372
135°	1904	1934	1951	1970	1966	1471
145°	2208	2206	2239	2252	2242	1381
155°	2432	2415	2437	2449	2434	1121
165°	2562	2551	2557	2570	2557	724
175°	2621	2608	2611	2625	2606	249
180°	2615	2615	2615	2615	2615	

TEST NUMBER: P919511

CATALOG NUMBER: DFN2DIP-PN3F0-090D090US935-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3202.7	3202.7	3202.7	3202.7	3202.7
2.5°	3217.1	3202.7	3170.6	3199.9	3194.0
5°	3202.7	3188.2	3150.4	3176.5	3167.9
7.5°	3176.5	3159.3	3118.7	3130.1	3115.6
10°	3141.8	3121.5	3063.7	3054.7	3037.5
12.5°	3098.4	3072.3	2993.9	2976.6	2944.6
15°	3046.1	3014.2	2915.8	2860.7	2831.8
17.5°	2985.3	2938.8	2817.0	2753.4	2707.0
20°	2915.8	2857.7	2712.7	2640.5	2576.5
22.5°	2840.4	2773.7	2605.5	2507.1	2463.7
25°	2765.1	2672.2	2481.0	2362.2	2318.6
27.5°	2675.3	2576.5	2365.0	2228.8	2162.1
30°	2579.6	2469.3	2237.4	2089.8	2011.4
32.5°	2486.7	2353.3	2115.9	1941.9	1869.3
35°	2382.6	2234.6	1979.7	1797.1	1733.1
37.5°	2281.0	2121.5	1852.1	1651.9	1579.7
40°	2173.8	2000.0	1718.6	1512.9	1437.6
42.5°	2063.6	1878.3	1585.4	1370.9	1298.6
45°	1947.7	1753.4	1449.2	1243.2	1173.7
47.5°	1837.6	1631.9	1318.9	1112.8	1049.2
50°	1715.9	1510.1	1191.3	991.1	930.5
52.5°	1596.9	1379.5	1069.5	878.2	823.2
55°	1480.9	1254.9	941.8	768.2	713.1
57.5°	1362.3	1130.4	829.1	666.7	620.3
60°	1240.4	1008.6	710.1	562.4	516.0
62.5°	1121.8	889.9	608.6	469.6	446.5
65°	1000.0	765.1	504.3	405.9	397.0
67.5°	884.1	649.1	405.9	356.4	347.8
70°	762.3	536.3	336.1	307.2	295.5
72.5°	646.4	431.7	281.0	258.0	252.2
75°	533.2	330.3	231.9	211.5	208.8
77.5°	420.3	234.6	182.6	171.0	165.1
80°	315.8	168.2	139.0	127.6	127.6
82.5°	220.2	113.1	95.7	89.8	89.8
85°	124.5	63.6	55.0	55.0	55.0
87.5°	46.4	23.1	23.1	20.3	20.3
90°	1.8	22.7	37.7	47.4	51.0
92.5°	47.4	39.8	45.4	49.2	51.0
95°	123.0	60.4	73.7	83.3	81.4
97.5°	221.4	66.3	96.4	102.2	104.0
100°	335.0	75.8	107.9	123.0	126.7
102.5°	459.8	456.2	111.7	132.3	138.2
105°	575.2	632.1	115.5	136.2	143.8
107.5°	709.6	756.8	119.3	140.0	147.7
110°	838.4	878.0	331.2	142.0	149.5

TEST NUMBER: P919511

CATALOG NUMBER: DFN2DIP-PN3F0-090D090US935-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	959.5	993.4	961.3	145.6	151.4
115°	1088.0	1120.2	1167.6	291.4	155.2
117.5°	1199.7	1237.5	1269.8	999.1	503.3
120°	1324.6	1353.0	1387.2	1409.8	1154.3
122.5°	1430.5	1460.9	1498.8	1510.0	1512.1
125°	1538.3	1563.1	1599.0	1612.3	1617.9
127.5°	1636.8	1663.3	1691.9	1710.7	1712.5
130°	1729.6	1760.0	1780.6	1801.5	1799.7
132.5°	1824.2	1848.9	1869.6	1886.7	1884.9
135°	1903.8	1934.1	1950.9	1970.0	1966.3
137.5°	1986.9	2009.6	2028.7	2047.5	2041.9
140°	2068.2	2083.5	2104.2	2121.2	2111.9
142.5°	2136.6	2149.8	2174.3	2189.3	2180.0
145°	2208.5	2206.4	2238.6	2251.9	2242.4
147.5°	2270.7	2265.1	2297.2	2306.7	2299.2
150°	2331.4	2318.2	2348.5	2359.7	2350.3
152.5°	2382.4	2367.3	2395.6	2407.1	2393.8
155°	2431.6	2414.8	2437.4	2448.7	2433.6
157.5°	2471.4	2456.3	2473.4	2486.6	2471.4
160°	2505.5	2494.1	2505.5	2516.8	2503.5
162.5°	2535.6	2524.4	2533.8	2547.1	2530.0
165°	2562.2	2550.9	2556.6	2569.8	2556.6
167.5°	2583.1	2571.6	2577.4	2590.7	2573.6
170°	2600.1	2588.7	2592.5	2605.7	2588.7
172.5°	2611.4	2600.1	2603.9	2617.2	2600.1
175°	2620.8	2607.5	2611.4	2624.6	2605.7
177.5°	2624.6	2611.4	2613.4	2626.6	2609.6
180°	2615.2	2615.2	2615.2	2615.2	2615.2

TEST NUMBER: P919511

CATALOG NUMBER: DFN2DIP-PN3F0-090D090US935-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	11.33	12.13	12.33	13.13	14.46	7.30	8.10	8.29	9.10	10.43
	3H	13.00	13.72	14.01	14.73	16.08	8.48	9.19	9.48	10.21	11.55
	4H	13.60	14.28	14.62	15.30	16.65	8.92	9.60	9.94	10.61	11.97
	6H	14.02	14.64	15.05	15.66	17.03	9.24	9.86	10.27	10.88	12.25
	8H	14.14	14.73	15.18	15.77	17.13	9.32	9.92	10.36	10.95	12.32
	12H	14.20	14.76	15.24	15.79	17.18	9.36	9.93	10.40	10.96	12.34
4H	2H	11.34	12.02	12.37	13.04	14.39	7.89	8.56	8.91	9.58	10.93
	3H	13.16	13.73	14.20	14.77	16.14	9.23	9.79	10.26	10.83	12.20
	4H	13.85	14.37	14.89	15.40	16.79	9.77	10.28	10.81	11.32	12.71
	6H	14.36	14.80	15.41	15.86	17.25	10.18	10.62	11.23	11.68	13.07
	8H	14.53	14.94	15.58	15.99	17.39	10.30	10.72	11.36	11.77	13.17
	12H	14.62	14.99	15.69	16.06	17.46	10.36	10.74	11.43	11.80	13.21
8H	4H	13.81	14.23	14.87	15.28	16.68	10.04	10.46	11.09	11.51	12.91
	6H	14.37	14.71	15.45	15.81	17.21	10.55	10.89	11.63	11.99	13.38
	8H	14.58	14.88	15.67	15.96	17.38	10.74	11.04	11.82	12.11	13.53
	12H	14.72	14.98	15.80	16.05	17.51	10.85	11.11	11.94	12.19	13.65
12H	4H	13.76	14.14	14.83	15.20	16.61	10.05	10.42	11.11	11.48	12.89
	6H	14.35	14.65	15.43	15.72	17.14	10.60	10.90	11.68	11.98	13.39
	8H	14.56	14.83	15.65	15.90	17.36	10.80	11.07	11.89	12.14	13.60

END OF REPORT