

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: P924937

Luminaire Tested: DFN2DIP-PN3F0-080D090US950-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P924937
REPORT IS A COMBINATION OF REPORTS P901125 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-080D090US950-FLLONL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

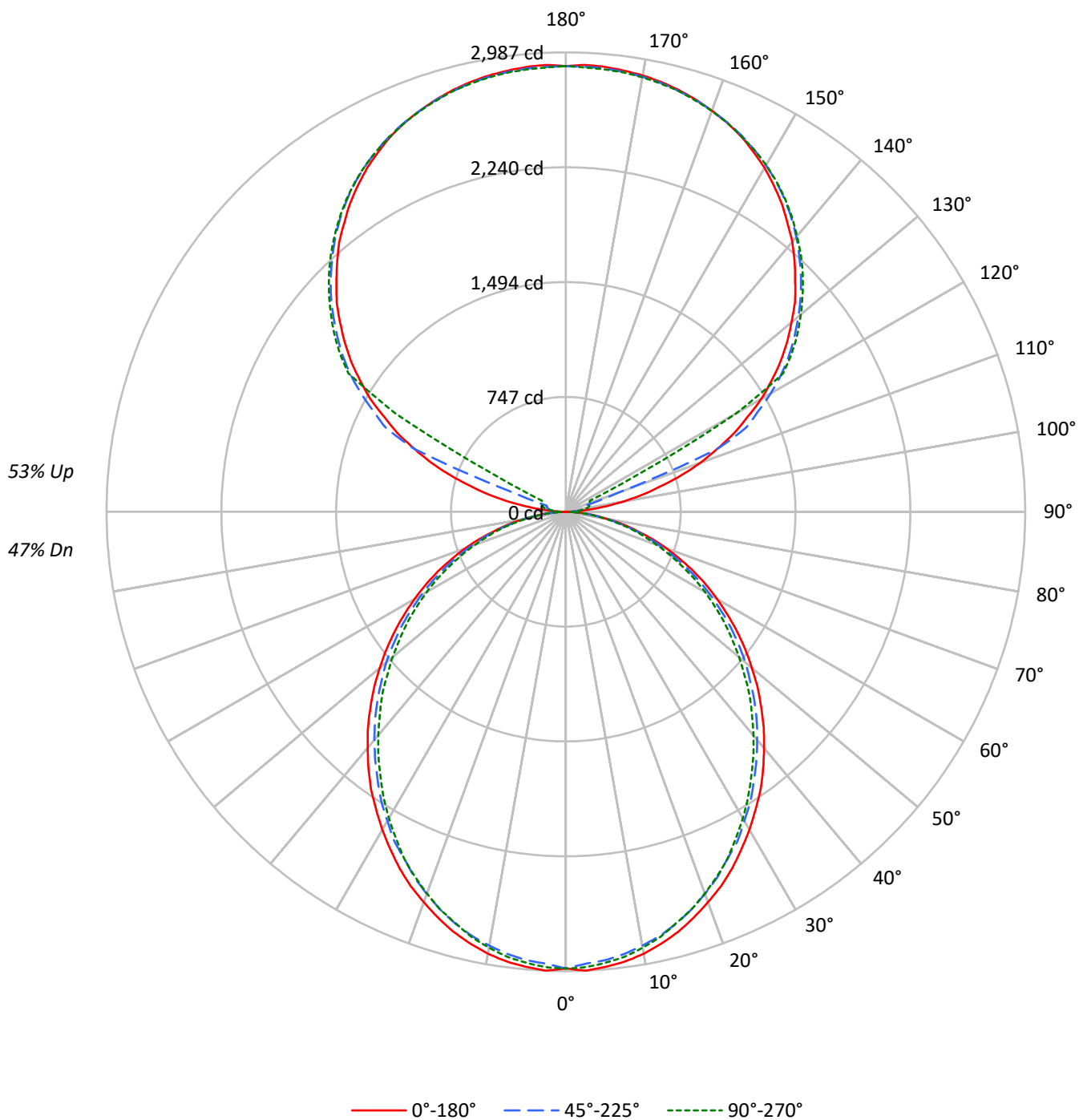
Lumens per Lamp: N/A
Luminaire Lumens: 16055.8 lumens
Efficiency: N/A
Efficacy: 106.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 151.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P924937

CATALOG NUMBER: DFN2DIP-PN3F0-080D090US950-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P924937

CATALOG NUMBER: DFN2DIP-PN3F0-080D090US950-FLLONL

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	82	82	82	67	67	67	53	53	53
1	97	93	89	85	89	85	82	79	72	69	67	59	57	56	47	46	45
2	88	81	75	70	81	75	69	65	63	59	56	52	49	47	42	40	38
3	81	71	64	58	74	66	59	54	55	51	47	46	42	39	37	34	32
4	74	63	55	49	68	58	51	46	49	44	40	41	37	34	33	30	28
5	68	56	48	42	62	52	45	39	44	39	34	37	32	29	30	27	24
6	62	50	42	36	57	47	39	34	40	34	30	33	29	26	27	24	21
7	58	45	38	32	53	42	35	30	36	30	26	30	26	23	25	21	19
8	53	41	34	28	49	38	31	27	33	27	23	28	23	20	23	19	17
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	21	18	15
10	47	34	27	23	43	32	26	21	28	22	19	23	19	16	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3471	3471	3471
5°	3475	3421	3445
10°	3445	3372	3397
15°	3392	3314	3322
20°	3322	3235	3246
25°	3251	3140	3159
30°	3164	3052	3047
35°	3081	2948	2930
40°	2979	2843	2818
45°	2877	2738	2704
50°	2766	2627	2571
55°	2649	2499	2449
60°	2517	2348	2309
65°	2372	2190	2143
70°	2188	1998	1965
75°	1934	1768	1798
80°	1627	1474	1483
85°	1148	976	968

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2877 cd/sqm

TEST NUMBER: P924937

CATALOG NUMBER: DFN2DIP-PN3F0-080D090US950-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	279.5	1.7
10°-20°	786.4	4.9
20°-30°	1155.7	7.2
30°-40°	1342.3	8.4
40°-50°	1340.6	8.3
50°-60°	1169.0	7.3
60°-70°	864.1	5.4
70°-80°	488.9	3.0
80°-90°	134.1	0.8
90°-100°	95.6	0.6
100°-110°	356.2	2.2
110°-120°	944.7	5.9
120°-130°	1566.8	9.8
130°-140°	1664.3	10.4
140°-150°	1546.8	9.6
150°-160°	1243.6	7.7
160°-170°	801.3	5.0
170°-180°	275.8	1.7
0°-30°	2221.6	13.8
0°-40°	3563.9	22.2
0°-60°	6073.6	37.8
0°-90°	7560.8	47.1
90°-120°	1396.4	8.7
90°-150°	6174.3	38.5
90°-180°	8495.0	52.9
0°-180°	16055.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2970	2970	2970	2970	2970	
5°	2970	2958	2927	2950	2944	282
15°	2827	2810	2773	2784	2770	796
25°	2558	2536	2487	2493	2487	1177
35°	2207	2179	2133	2116	2102	1378
45°	1796	1776	1733	1702	1691	1386
55°	1359	1342	1308	1274	1259	1215
65°	917	900	871	845	831	906
75°	480	474	460	443	448	512
85°	117	114	112	103	100	130
90°	2	25	42	53	56	15
95°	136	67	82	92	90	161
105°	637	700	128	151	159	681
115°	1206	1241	1294	323	172	1187
125°	1704	1732	1772	1786	1793	1520
135°	2109	2143	2162	2183	2179	1629
145°	2447	2445	2480	2495	2485	1530
155°	2694	2676	2701	2713	2696	1242
165°	2839	2826	2833	2847	2833	802
175°	2904	2889	2894	2908	2887	276
180°	2898	2898	2898	2898	2898	

TEST NUMBER: P924937

CATALOG NUMBER: DFN2DIP-PN3F0-080D090US950-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2969.6	2969.6	2969.6	2969.6	2969.6
2.5°	2986.9	2972.7	2941.2	2969.6	2964.2
5°	2969.6	2958.4	2927.0	2949.7	2944.2
7.5°	2949.7	2932.7	2901.2	2924.2	2918.5
10°	2918.5	2898.4	2864.2	2886.9	2878.5
12.5°	2875.5	2858.5	2824.2	2838.4	2832.7
15°	2827.0	2810.0	2772.7	2784.2	2770.0
17.5°	2767.0	2750.0	2712.7	2727.0	2712.7
20°	2701.3	2684.3	2644.3	2652.8	2641.5
22.5°	2635.8	2610.0	2572.7	2572.7	2567.0
25°	2558.5	2535.8	2487.4	2492.8	2487.4
27.5°	2472.8	2452.8	2415.8	2407.3	2393.1
30°	2387.4	2364.3	2321.7	2313.2	2301.6
32.5°	2295.9	2278.9	2233.1	2215.9	2204.4
35°	2207.4	2178.9	2133.1	2115.9	2101.7
37.5°	2107.4	2081.6	2035.9	2015.9	2001.7
40°	2004.7	1981.6	1936.0	1910.5	1898.9
42.5°	1904.8	1881.7	1836.3	1807.4	1790.6
45°	1796.3	1776.3	1733.2	1702.0	1690.6
47.5°	1690.6	1670.5	1624.8	1593.3	1576.3
50°	1579.1	1564.8	1524.8	1484.8	1470.6
52.5°	1470.6	1450.6	1413.6	1382.2	1362.1
55°	1359.4	1342.1	1307.9	1273.7	1259.4
57.5°	1247.9	1233.7	1196.4	1162.2	1150.6
60°	1136.4	1125.2	1085.2	1053.7	1045.2
62.5°	1027.9	1008.0	979.5	951.0	939.5
65°	916.8	899.5	871.0	845.2	831.0
67.5°	802.5	788.0	762.5	742.6	731.1
70°	696.8	685.3	659.6	639.6	628.3
72.5°	588.3	576.9	562.6	542.6	534.1
75°	479.6	474.1	459.6	442.7	448.4
77.5°	382.6	371.1	365.4	356.9	348.4
80°	285.7	282.7	276.9	268.5	262.6
82.5°	194.2	194.2	191.5	179.9	179.9
85°	117.0	114.2	111.5	102.7	100.0
87.5°	51.5	45.8	40.0	31.5	28.5
90°	2.0	25.2	41.8	52.6	56.5
92.5°	52.6	44.1	50.3	54.6	56.5
95°	136.2	67.0	81.7	92.3	90.2
97.5°	245.3	73.5	106.8	113.2	115.2
100°	371.2	84.0	119.5	136.2	140.4
102.5°	509.4	505.4	123.7	146.6	153.1
105°	637.4	700.4	127.9	150.9	159.3
107.5°	786.3	838.6	132.2	155.1	163.6
110°	928.9	972.8	367.0	157.3	165.6

TEST NUMBER: P924937

CATALOG NUMBER: DFN2DIP-PN3F0-080D090US950-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1063.1	1100.7	1065.1	161.3	167.8
115°	1205.6	1241.2	1293.7	322.9	172.0
117.5°	1329.3	1371.2	1407.0	1107.0	557.7
120°	1467.7	1499.1	1537.0	1562.1	1279.0
122.5°	1585.1	1618.7	1660.7	1673.1	1675.4
125°	1704.5	1731.9	1771.8	1786.5	1792.7
127.5°	1813.6	1842.9	1874.6	1895.5	1897.5
130°	1916.4	1950.1	1973.0	1996.1	1994.1
132.5°	2021.2	2048.6	2071.5	2090.5	2088.5
135°	2109.4	2143.0	2161.7	2182.8	2178.6
137.5°	2201.5	2226.6	2247.8	2268.7	2262.5
140°	2291.6	2308.6	2331.5	2350.4	2340.0
142.5°	2367.4	2382.0	2409.1	2425.8	2415.4
145°	2447.0	2444.7	2480.4	2495.1	2484.6
147.5°	2516.0	2509.8	2545.4	2555.9	2547.6
150°	2583.2	2568.5	2602.1	2614.5	2604.1
152.5°	2639.7	2623.0	2654.4	2667.1	2652.4
155°	2694.3	2675.6	2700.7	2713.2	2696.5
157.5°	2738.4	2721.7	2740.6	2755.2	2738.4
160°	2776.1	2763.5	2776.1	2788.6	2773.9
162.5°	2809.5	2797.0	2807.5	2822.2	2803.3
165°	2838.9	2826.4	2832.7	2847.4	2832.7
167.5°	2862.1	2849.4	2855.8	2870.5	2851.6
170°	2881.0	2868.3	2872.5	2887.2	2868.3
172.5°	2893.5	2881.0	2885.2	2899.9	2881.0
175°	2903.9	2889.2	2893.5	2908.1	2887.2
177.5°	2908.1	2893.5	2895.7	2910.4	2891.5
180°	2897.7	2897.7	2897.7	2897.7	2897.7

TEST NUMBER: P924937

CATALOG NUMBER: DFN2DIP-PN3F0-080D090US950-FLLONL

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	11.28	12.12	12.26	13.11	14.42	10.84	11.68	11.82	12.67	13.99
	3H	12.93	13.68	13.93	14.69	16.02	12.45	13.20	13.44	14.20	15.54
	4H	13.52	14.23	14.52	15.23	16.57	13.03	13.74	14.04	14.75	16.09
	6H	13.91	14.56	14.93	15.58	16.93	13.42	14.07	14.44	15.09	16.44
	8H	14.01	14.63	15.03	15.66	17.01	13.52	14.14	14.54	15.17	16.52
	12H	14.06	14.65	15.08	15.67	17.05	13.56	14.15	14.59	15.17	16.55
4H	2H	11.74	12.45	12.75	13.45	14.79	11.39	12.10	12.40	13.10	14.44
	3H	13.59	14.19	14.61	15.22	16.58	13.19	13.78	14.21	14.82	16.17
	4H	14.30	14.84	15.33	15.87	17.25	13.89	14.43	14.91	15.46	16.83
	6H	14.81	15.28	15.85	16.33	17.70	14.39	14.85	15.43	15.90	17.28
	8H	14.96	15.39	15.99	16.43	17.82	14.53	14.96	15.57	16.01	17.40
	12H	15.02	15.42	16.08	16.48	17.87	14.59	14.98	15.64	16.04	17.43
8H	4H	14.49	14.93	15.53	15.97	17.36	14.12	14.56	15.16	15.60	16.99
	6H	15.11	15.47	16.18	16.56	17.95	14.74	15.10	15.80	16.19	17.57
	8H	15.33	15.65	16.40	16.72	18.12	14.95	15.26	16.02	16.33	17.74
	12H	15.46	15.74	16.53	16.80	18.25	15.06	15.34	16.13	16.40	17.85
12H	4H	14.48	14.87	15.53	15.93	17.32	14.11	14.51	15.17	15.57	16.96
	6H	15.14	15.46	16.21	16.53	17.94	14.78	15.10	15.85	16.17	17.57
	8H	15.38	15.66	16.45	16.72	18.17	15.01	15.29	16.08	16.35	17.80