

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: P916613

Luminaire Tested: DFN2DIP-PN3F0-030D090US930-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916613
REPORT IS A COMBINATION OF REPORTS P901115 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-030D090US930-FLLONL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

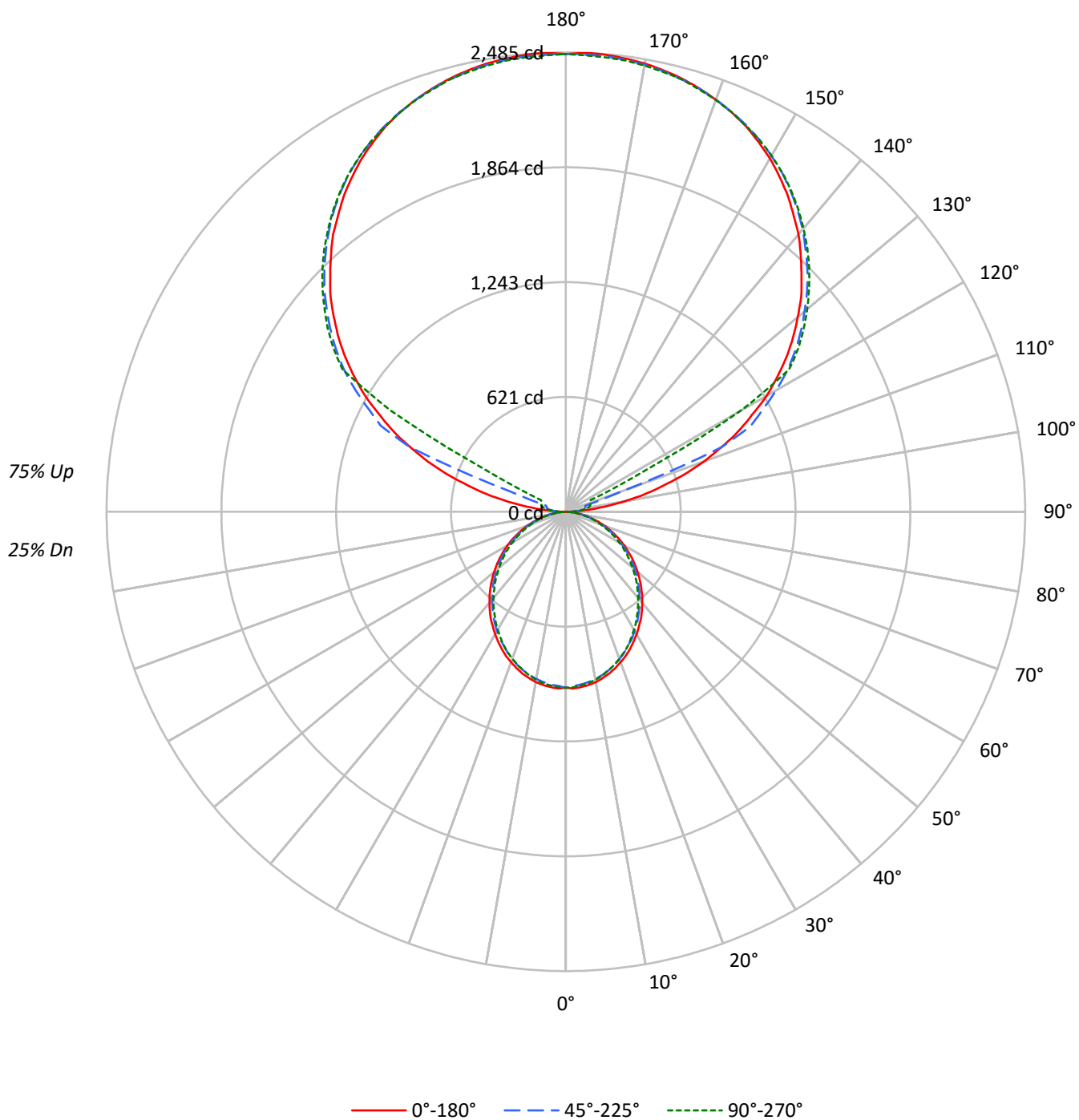
Lumens per Lamp: N/A
Luminaire Lumens: 9685.8 lumens
Efficiency: N/A
Efficacy: 101.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 95.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P916613

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US930-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P916613

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US930-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	101	101	101	101	90	90	90	90	69	69	69	51	51	51	33	33	33
1	92	88	84	81	82	79	75	73	61	59	57	44	43	42	29	29	28
2	84	77	71	66	74	69	64	59	53	50	47	39	37	35	26	25	24
3	76	67	60	55	68	60	54	50	47	43	39	34	32	30	23	21	20
4	70	60	52	46	62	53	47	42	42	37	33	31	28	25	20	19	17
5	64	53	45	39	57	47	41	36	37	32	29	27	24	22	18	16	15
6	59	47	40	34	52	42	36	31	33	28	25	25	21	19	17	15	13
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12
8	50	38	31	26	45	35	28	24	27	23	19	20	17	15	14	12	10
9	47	35	28	23	41	31	25	21	25	20	17	19	15	13	13	11	9
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1113	1113	1113
5°	1114	1096	1104
10°	1104	1081	1089
15°	1087	1062	1065
20°	1064	1037	1040
25°	1042	1006	1012
30°	1014	978	977
35°	987	945	939
40°	955	911	903
45°	922	877	866
50°	886	842	824
55°	849	801	785
60°	807	752	740
65°	760	702	687
70°	701	640	630
75°	620	567	576
80°	522	472	476
85°	368	312	310

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1671 cd/sqm

TEST NUMBER: P916613

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US930-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.6	0.9
10°-20°	252.0	2.6
20°-30°	370.4	3.8
30°-40°	430.2	4.4
40°-50°	429.7	4.4
50°-60°	374.6	3.9
60°-70°	277.0	2.9
70°-80°	156.7	1.6
80°-90°	45.7	0.5
90°-100°	81.7	0.8
100°-110°	304.4	3.1
110°-120°	807.3	8.3
120°-130°	1339.0	13.8
130°-140°	1422.3	14.7
140°-150°	1321.9	13.6
150°-160°	1062.8	11.0
160°-170°	684.8	7.1
170°-180°	235.7	2.4
0°-30°	712.0	7.4
0°-40°	1142.2	11.8
0°-60°	1946.5	20.1
0°-90°	2425.8	25.0
90°-120°	1193.4	12.3
90°-150°	5276.6	54.5
90°-180°	7260.0	75.0
0°-180°	9685.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	952	952	952	952	952	
5°	952	948	938	945	944	90
15°	906	901	889	892	888	255
25°	820	813	797	799	797	377
35°	707	698	684	678	674	442
45°	576	569	556	545	542	444
55°	436	430	419	408	404	390
65°	294	288	279	271	266	290
75°	154	152	147	142	144	164
85°	38	37	36	33	32	42
90°	2	22	36	45	48	9
95°	116	57	70	79	77	138
105°	545	599	109	129	136	582
115°	1030	1061	1106	276	147	1014
125°	1457	1480	1514	1527	1532	1299
135°	1803	1831	1847	1866	1862	1393
145°	2091	2089	2120	2132	2123	1308
155°	2303	2287	2308	2319	2304	1061
165°	2426	2416	2421	2433	2421	685
175°	2482	2469	2473	2485	2467	236
180°	2476	2476	2476	2476	2476	

TEST NUMBER: P916613

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US930-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	951.7	951.7	951.7	951.7	951.7
2.5°	957.2	952.7	942.6	951.7	950.0
5°	951.7	948.1	938.0	945.3	943.5
7.5°	945.3	939.9	929.8	937.2	935.3
10°	935.3	928.9	917.9	925.2	922.5
12.5°	921.5	916.1	905.1	909.6	907.8
15°	906.0	900.6	888.6	892.3	887.7
17.5°	886.7	881.3	869.4	873.9	869.4
20°	865.7	860.2	847.4	850.1	846.5
22.5°	844.7	836.5	824.5	824.5	822.6
25°	819.9	812.7	797.1	798.9	797.1
27.5°	792.5	786.0	774.2	771.5	767.0
30°	765.1	757.7	744.0	741.3	737.6
32.5°	735.8	730.3	715.7	710.1	706.5
35°	707.4	698.3	683.6	678.1	673.5
37.5°	675.4	667.2	652.5	646.0	641.5
40°	642.5	635.1	620.4	612.3	608.6
42.5°	610.4	603.1	588.5	579.3	573.8
45°	575.7	569.2	555.5	545.4	541.8
47.5°	541.8	535.4	520.7	510.6	505.2
50°	506.1	501.5	488.7	475.9	471.3
52.5°	471.3	464.9	453.1	443.0	436.5
55°	435.7	430.2	419.1	408.2	403.7
57.5°	399.9	395.3	383.4	372.4	368.8
60°	364.2	360.6	347.8	337.7	335.0
62.5°	329.5	323.0	313.9	304.8	301.1
65°	293.8	288.3	279.2	270.9	266.4
67.5°	257.2	252.6	244.3	238.0	234.3
70°	223.3	219.6	211.4	205.0	201.4
72.5°	188.6	184.8	180.3	173.9	171.2
75°	153.7	152.0	147.3	141.9	143.7
77.5°	122.6	119.0	117.1	114.4	111.7
80°	91.6	90.6	88.7	86.0	84.2
82.5°	62.2	62.2	61.4	57.6	57.6
85°	37.5	36.6	35.7	32.9	32.0
87.5°	16.5	14.7	12.8	10.1	9.1
90°	1.7	21.5	35.7	44.9	48.3
92.5°	44.9	37.7	43.0	46.6	48.3
95°	116.4	57.2	69.8	78.9	77.0
97.5°	209.6	62.8	91.3	96.8	98.5
100°	317.2	71.7	102.2	116.4	120.0
102.5°	435.4	431.9	105.7	125.3	130.9
105°	544.7	598.6	109.3	129.0	136.2
107.5°	672.0	716.6	113.0	132.6	139.8
110°	793.9	831.4	313.6	134.4	141.5

TEST NUMBER: P916613

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US930-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	908.6	940.7	910.3	137.9	143.4
115°	1030.3	1060.7	1105.6	276.0	147.0
117.5°	1136.0	1171.8	1202.4	946.1	476.6
120°	1254.3	1281.2	1313.5	1335.0	1093.1
122.5°	1354.6	1383.3	1419.3	1429.9	1431.8
125°	1456.7	1480.1	1514.2	1526.7	1532.0
127.5°	1549.9	1575.0	1602.1	1619.9	1621.6
130°	1637.8	1666.6	1686.1	1705.8	1704.2
132.5°	1727.4	1750.8	1770.3	1786.6	1784.9
135°	1802.7	1831.4	1847.4	1865.5	1861.9
137.5°	1881.5	1902.9	1921.0	1938.9	1933.6
140°	1958.4	1972.9	1992.5	2008.7	1999.8
142.5°	2023.2	2035.7	2058.9	2073.1	2064.3
145°	2091.2	2089.3	2119.8	2132.3	2123.4
147.5°	2150.2	2144.9	2175.3	2184.3	2177.2
150°	2207.7	2195.1	2223.8	2234.4	2225.5
152.5°	2255.9	2241.7	2268.5	2279.3	2266.8
155°	2302.6	2286.6	2308.0	2318.7	2304.4
157.5°	2340.2	2326.0	2342.1	2354.7	2340.2
160°	2372.5	2361.7	2372.5	2383.2	2370.6
162.5°	2401.1	2390.4	2399.3	2411.9	2395.8
165°	2426.2	2415.5	2420.9	2433.4	2420.9
167.5°	2446.0	2435.1	2440.6	2453.2	2437.0
170°	2462.1	2451.3	2454.9	2467.4	2451.3
172.5°	2472.8	2462.1	2465.7	2478.3	2462.1
175°	2481.7	2469.1	2472.8	2485.3	2467.4
177.5°	2485.3	2472.8	2474.7	2487.2	2471.1
180°	2476.4	2476.4	2476.4	2476.4	2476.4

TEST NUMBER: P916613

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US930-FLONL

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	4.66	5.33	5.81	6.47	8.06	4.22	4.90	5.37	6.03	7.62
	3H	6.30	6.90	7.45	8.05	9.65	5.82	6.42	6.97	7.56	9.17
	4H	6.88	7.45	8.04	8.59	10.20	6.39	6.96	7.55	8.11	9.72
	6H	7.26	7.79	8.43	8.93	10.55	6.77	7.30	7.94	8.44	10.06
	8H	7.36	7.86	8.53	9.02	10.63	6.87	7.37	8.04	8.53	10.14
	12H	7.40	7.87	8.57	9.03	10.66	6.90	7.38	8.08	8.53	10.16
4H	2H	5.10	5.67	6.27	6.81	8.42	4.74	5.32	5.91	6.46	8.07
	3H	6.94	7.42	8.11	8.58	10.20	6.54	7.01	7.71	8.18	9.80
	4H	7.64	8.08	8.82	9.24	10.88	7.22	7.66	8.40	8.82	10.46
	6H	8.14	8.51	9.32	9.69	11.32	7.72	8.09	8.90	9.27	10.90
	8H	8.28	8.63	9.46	9.80	11.45	7.85	8.21	9.03	9.38	11.02
	12H	8.34	8.66	9.54	9.84	11.49	7.90	8.22	9.10	9.40	11.05
8H	4H	7.82	8.17	9.00	9.34	10.98	7.45	7.80	8.63	8.97	10.61
	6H	8.43	8.72	9.63	9.94	11.58	8.06	8.35	9.26	9.56	11.20
	8H	8.65	8.90	9.85	10.09	11.75	8.26	8.52	9.47	9.71	11.37
	12H	8.77	8.99	9.97	10.18	11.87	8.37	8.59	9.57	9.78	11.47
12H	4H	7.79	8.11	8.99	9.29	10.94	7.43	7.75	8.63	8.93	10.58
	6H	8.46	8.71	9.66	9.90	11.56	8.09	8.35	9.30	9.54	11.20
	8H	8.69	8.91	9.90	10.10	11.79	8.32	8.54	9.52	9.73	11.42