

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: P916615

Luminaire Tested: DFN2DIP-PN3F0-030D090US930-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916615
REPORT IS A COMBINATION OF REPORTS P901116 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-030D090US930-RLLONL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

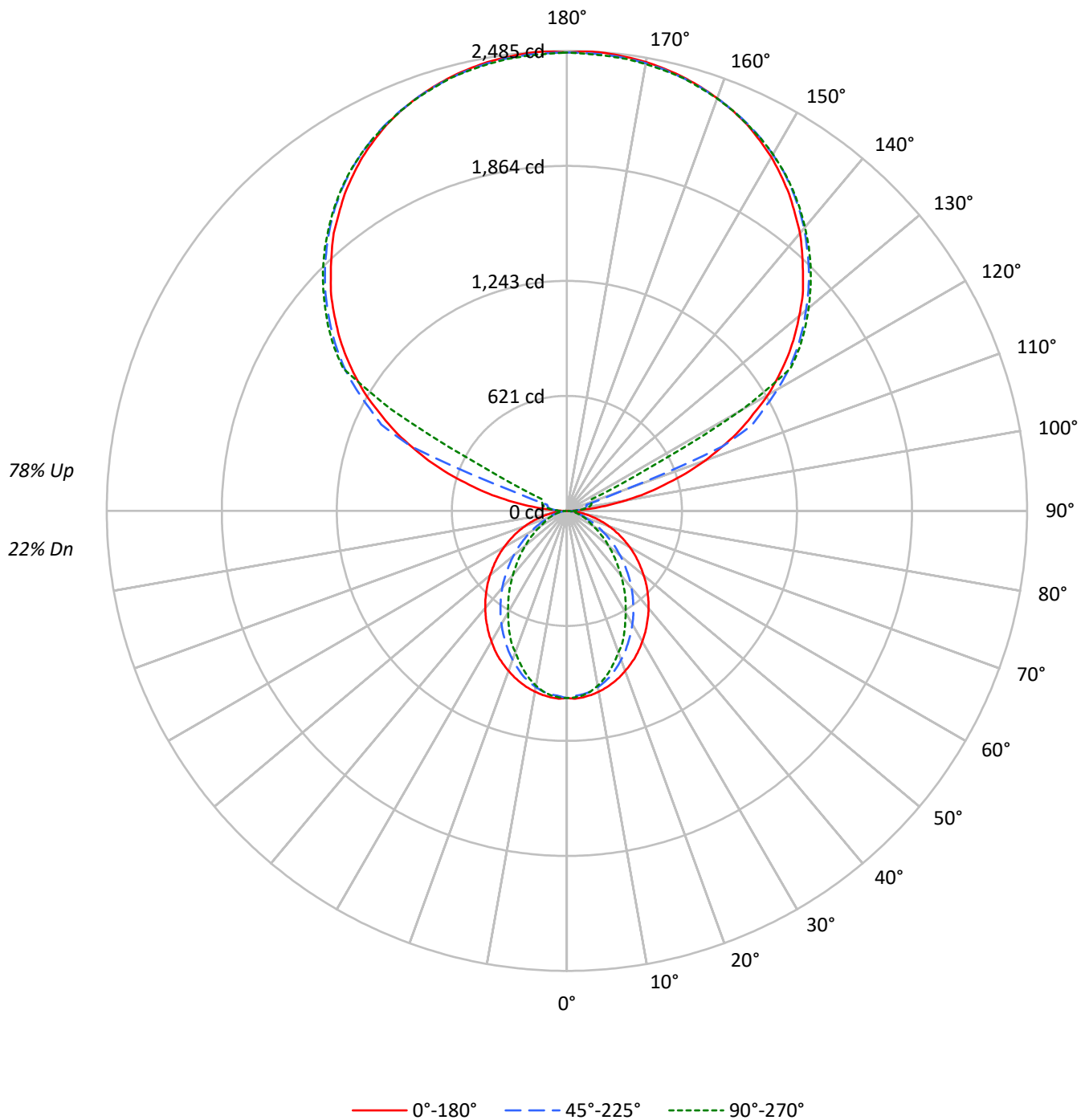
Lumens per Lamp: N/A
Luminaire Lumens: 9343.3 lumens
Efficiency: N/A
Efficacy: 98.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Indirect

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: P916615

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US930-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P916615

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US930-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	101	101	101	101	89	89	89	89	68	68	68	49	49	49	31	31	31
1	92	88	84	81	81	78	75	72	60	58	56	43	42	41	27	27	26
2	84	77	71	66	74	68	64	60	52	49	47	38	36	34	24	23	22
3	76	68	61	55	68	60	55	50	46	43	39	34	31	29	22	20	19
4	70	60	52	47	62	53	47	42	41	37	34	30	27	25	20	18	17
5	64	53	46	40	57	48	41	36	37	32	29	27	24	22	18	16	15
6	59	48	40	35	52	43	36	31	33	29	25	24	21	19	16	14	13
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12
8	50	39	32	27	45	35	29	24	27	23	20	20	17	15	14	12	10
9	47	35	28	23	42	32	26	21	25	20	17	19	16	13	12	11	9
10	44	32	25	21	39	29	23	19	23	19	16	17	14	12	12	10	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1182	1182	1182
5°	1183	1162	1170
10°	1170	1138	1131
15°	1154	1100	1072
20°	1132	1047	999
25°	1109	989	929
30°	1079	928	841
35°	1050	863	763
40°	1020	797	673
45°	985	723	592
50°	949	648	513
55°	911	568	438
60°	867	485	360
65°	817	400	323
70°	756	321	292
75°	679	282	264
80°	568	234	228
85°	386	152	168

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1671 cd/sqm

TEST NUMBER: P916615

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US930-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.7	1.0
10°-20°	260.1	2.8
20°-30°	365.1	3.9
30°-40°	398.0	4.3
40°-50°	365.8	3.9
50°-60°	287.3	3.1
60°-70°	187.0	2.0
70°-80°	96.3	1.0
80°-90°	28.9	0.3
90°-100°	81.7	0.9
100°-110°	304.4	3.3
110°-120°	807.3	8.6
120°-130°	1339.0	14.3
130°-140°	1422.3	15.2
140°-150°	1321.9	14.1
150°-160°	1062.8	11.4
160°-170°	684.8	7.3
170°-180°	235.7	2.5
0°-30°	720.0	7.7
0°-40°	1118.0	12.0
0°-60°	1771.2	19.0
0°-90°	2083.4	22.3
90°-120°	1193.4	12.8
90°-150°	5276.6	56.5
90°-180°	7260.0	77.7
0°-180°	9343.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1011	1011	1011	1011	1011	
5°	1011	1006	994	1003	1000	96
15°	962	951	920	903	894	271
25°	873	843	783	746	732	401
35°	752	705	625	567	547	471
45°	615	553	458	392	370	475
55°	467	396	297	242	225	418
65°	316	242	159	128	125	313
75°	168	104	73	67	66	178
85°	39	20	17	17	17	45
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: P916615

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US930-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1010.9	1010.9	1010.9	1010.9	1010.9
2.5°	1015.5	1010.9	1000.8	1010.0	1008.2
5°	1010.9	1006.3	994.4	1002.7	999.9
7.5°	1002.7	997.2	984.4	988.0	983.4
10°	991.6	985.3	967.0	964.2	958.8
12.5°	978.0	969.7	945.0	939.5	929.4
15°	961.5	951.4	920.3	902.9	893.8
17.5°	942.2	927.6	889.2	869.1	854.4
20°	920.3	902.0	856.2	833.5	813.3
22.5°	896.6	875.5	822.4	791.3	777.6
25°	872.8	843.4	783.1	745.6	731.8
27.5°	844.4	813.3	746.5	703.5	682.4
30°	814.2	779.4	706.2	659.7	634.9
32.5°	784.9	742.8	667.9	612.9	590.0
35°	752.0	705.3	624.8	567.2	547.1
37.5°	720.0	669.6	584.6	521.4	498.6
40°	686.2	631.3	542.5	477.5	453.8
42.5°	651.3	592.9	500.4	432.7	409.9
45°	614.8	553.4	457.5	392.4	370.5
47.5°	580.0	515.1	416.3	351.2	331.2
50°	541.6	476.6	376.0	312.8	293.7
52.5°	504.0	435.5	337.6	277.2	259.8
55°	467.4	396.1	297.3	242.5	225.1
57.5°	430.0	356.8	261.7	210.4	195.8
60°	391.5	318.4	224.1	177.5	162.9
62.5°	354.1	280.9	192.1	148.2	141.0
65°	315.6	241.5	159.1	128.1	125.3
67.5°	279.1	204.9	128.1	112.5	109.7
70°	240.6	169.3	106.1	96.9	93.3
72.5°	204.0	136.2	88.7	81.4	79.6
75°	168.3	104.3	73.2	66.8	65.9
77.5°	132.6	74.0	57.6	54.0	52.1
80°	99.7	53.1	43.9	40.3	40.3
82.5°	69.5	35.7	30.2	28.4	28.4
85°	39.3	20.1	17.4	17.4	17.4
87.5°	14.7	7.3	7.3	6.4	6.4
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: P916615

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US930-RLLONL

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: P916615

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US930-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	4.26	4.91	5.43	6.06	7.68	0.23	0.87	1.40	2.02	3.64
	3H	5.92	6.50	7.09	7.66	9.29	1.40	1.97	2.57	3.13	4.77
	4H	6.52	7.06	7.70	8.22	9.86	1.83	2.38	3.02	3.54	5.18
	6H	6.92	7.43	8.11	8.59	10.24	2.14	2.64	3.33	3.80	5.45
	8H	7.04	7.52	8.23	8.70	10.34	2.22	2.70	3.41	3.88	5.52
	12H	7.09	7.55	8.29	8.72	10.38	2.26	2.71	3.45	3.88	5.54
4H	2H	4.26	4.80	5.45	5.96	7.60	0.80	1.35	1.99	2.50	4.14
	3H	6.06	6.52	7.26	7.70	9.35	2.12	2.58	3.32	3.76	5.41
	4H	6.74	7.16	7.94	8.33	10.00	2.66	3.08	3.85	4.25	5.92
	6H	7.24	7.60	8.44	8.79	10.45	3.06	3.42	4.26	4.61	6.27
	8H	7.41	7.74	8.61	8.93	10.60	3.18	3.52	4.38	4.70	6.38
	12H	7.49	7.80	8.70	8.99	10.67	3.24	3.54	4.45	4.74	6.42
8H	4H	6.69	7.03	7.89	8.21	9.89	2.92	3.26	4.12	4.44	6.12
	6H	7.25	7.52	8.46	8.75	10.42	3.43	3.70	4.64	4.93	6.60
	8H	7.46	7.70	8.68	8.90	10.59	3.61	3.85	4.83	5.06	6.75
	12H	7.58	7.80	8.81	9.00	10.72	3.72	3.93	4.94	5.13	6.85
12H	4H	6.64	6.94	7.85	8.14	9.82	2.92	3.22	4.13	4.42	6.10
	6H	7.22	7.46	8.44	8.66	10.36	3.47	3.71	4.69	4.92	6.61
	8H	7.43	7.64	8.65	8.84	10.56	3.67	3.88	4.90	5.08	6.81

END OF REPORT