

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: P908516

Luminaire Tested: DFN2DIP-PN3F0-070D030US840-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P908516
REPORT IS A COMBINATION OF REPORTS P899519 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-070D030US840-FLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

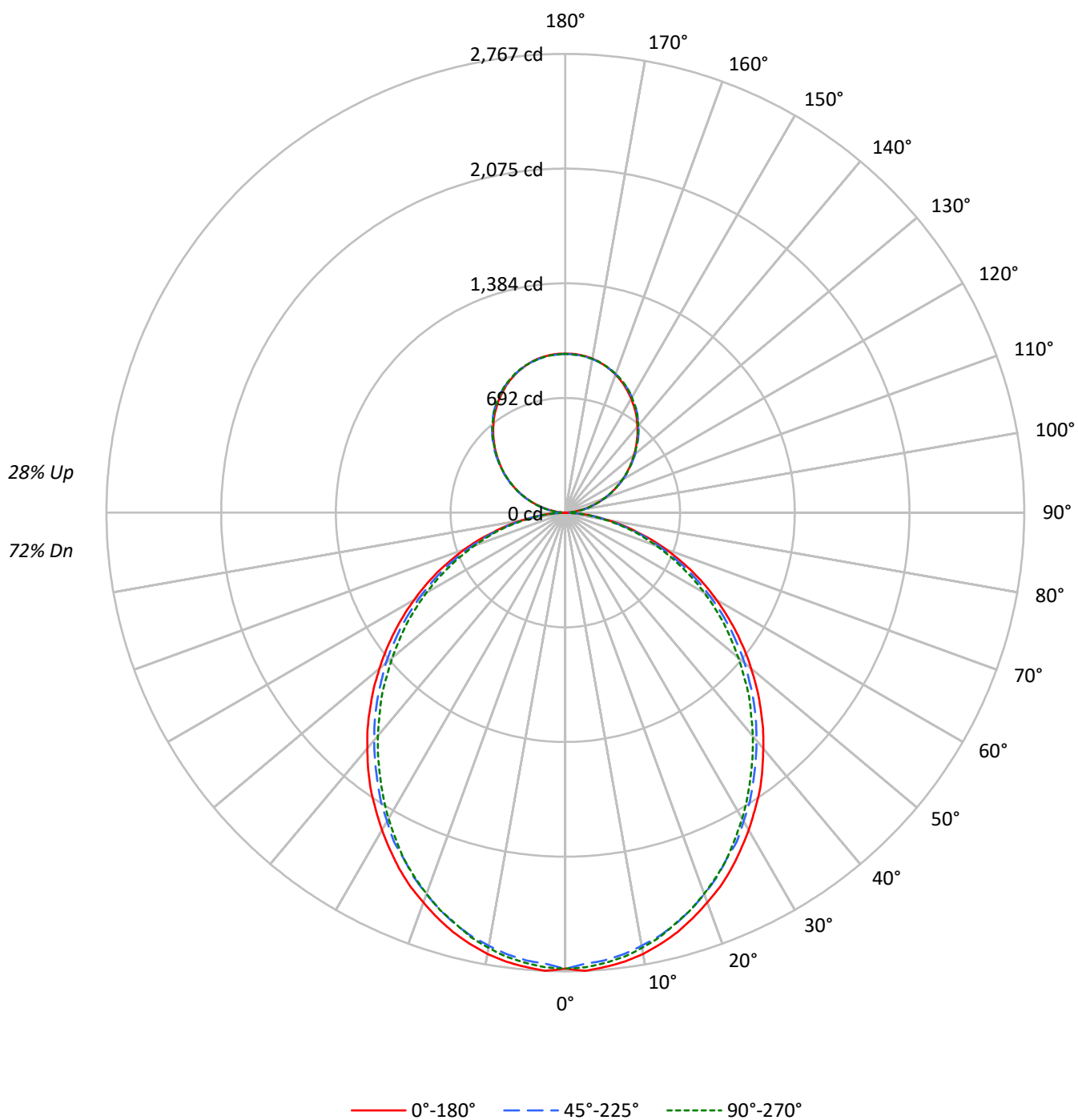
Lumens per Lamp: N/A
Luminaire Lumens: 9679.6 lumens
Efficiency: N/A
Efficacy: 104.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 92.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P908516

CATALOG NUMBER: DFN2DIP-PN3F0-070D030US840-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P908516

CATALOG NUMBER: DFN2DIP-PN3F0-070D030US840-FLLFL

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	112	112	112	112	107	107	107	107	96	96	96	86	86	86	77	77	77
1	103	98	94	91	97	93	90	87	84	81	79	76	74	72	68	66	65
2	94	86	80	74	89	82	76	71	74	69	65	66	63	60	60	57	55
3	85	76	68	62	81	72	65	60	65	60	55	59	54	51	53	49	46
4	78	67	59	52	74	64	56	51	58	52	47	52	48	44	47	43	40
5	72	60	51	45	68	57	49	44	52	46	41	47	42	38	43	38	35
6	66	54	45	39	63	51	44	38	47	40	36	43	37	33	39	34	31
7	62	49	41	35	58	47	39	34	43	36	32	39	34	30	35	31	27
8	57	44	36	31	54	43	35	30	39	33	28	36	30	26	33	28	25
9	53	41	33	28	51	39	32	27	36	30	25	33	28	24	30	26	22
10	50	37	30	25	47	36	29	24	33	27	23	30	25	22	28	24	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3215	3215	3215
5°	3219	3168	3191
10°	3191	3123	3146
15°	3142	3070	3077
20°	3076	2996	3007
25°	3012	2908	2926
30°	2930	2827	2822
35°	2854	2730	2714
40°	2759	2633	2610
45°	2665	2536	2504
50°	2562	2433	2381
55°	2454	2315	2268
60°	2331	2175	2138
65°	2197	2029	1985
70°	2027	1851	1820
75°	1791	1638	1666
80°	1507	1366	1374
85°	1063	904	896

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2665 cd/sqm

TEST NUMBER: P908516

CATALOG NUMBER: DFN2DIP-PN3F0-070D030US840-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	258.9	2.7
10°-20°	728.4	7.5
20°-30°	1070.5	11.1
30°-40°	1243.3	12.8
40°-50°	1241.7	12.8
50°-60°	1082.8	11.2
60°-70°	800.4	8.3
70°-80°	452.9	4.7
80°-90°	122.3	1.3
90°-100°	59.3	0.6
100°-110°	188.4	1.9
110°-120°	322.4	3.3
120°-130°	424.0	4.4
130°-140°	475.9	4.9
140°-150°	466.7	4.8
150°-160°	391.5	4.0
160°-170°	259.6	2.7
170°-180°	90.7	0.9
0°-30°	2057.8	21.3
0°-40°	3301.1	34.1
0°-60°	5625.6	58.1
0°-90°	7001.1	72.3
90°-120°	570.1	5.9
90°-150°	1936.6	20.0
90°-180°	2678.0	27.7
0°-180°	9679.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2751	2751	2751	2751	2751	
5°	2751	2740	2711	2732	2727	261
15°	2618	2603	2568	2579	2566	737
25°	2370	2349	2304	2309	2304	1090
35°	2045	2018	1976	1960	1947	1277
45°	1664	1645	1605	1576	1566	1284
55°	1259	1243	1211	1180	1166	1126
65°	849	833	807	783	770	840
75°	444	439	426	410	415	474
85°	108	106	103	95	93	121
90°	1	10	28	27	28	9
95°	42	50	52	52	50	47
105°	174	176	178	179	179	184
115°	324	328	327	326	324	320
125°	471	478	475	473	472	420
135°	609	618	619	618	616	470
145°	739	745	749	750	747	462
155°	845	847	850	854	851	389
165°	919	918	918	924	920	259
175°	956	954	952	958	953	91
180°	958	958	958	958	958	

TEST NUMBER: P908516

CATALOG NUMBER: DFN2DIP-PN3F0-070D030US840-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2750.6	2750.6	2750.6	2750.6	2750.6
2.5°	2766.6	2753.4	2724.2	2750.6	2745.5
5°	2750.6	2740.3	2711.1	2732.1	2727.0
7.5°	2732.1	2716.3	2687.2	2708.6	2703.2
10°	2703.2	2684.6	2652.9	2674.0	2666.1
12.5°	2663.3	2647.7	2616.0	2629.1	2623.7
15°	2618.5	2602.7	2568.2	2578.9	2565.7
17.5°	2562.8	2547.2	2512.6	2525.9	2512.6
20°	2501.9	2486.3	2449.2	2457.1	2446.7
22.5°	2441.3	2417.5	2383.0	2383.0	2377.6
25°	2369.9	2348.7	2303.9	2309.0	2303.9
27.5°	2290.4	2271.9	2237.7	2229.8	2216.6
30°	2211.3	2189.9	2150.4	2142.5	2131.8
32.5°	2126.5	2110.8	2068.4	2052.5	2041.7
35°	2044.6	2018.2	1975.8	1959.8	1946.6
37.5°	1952.0	1928.1	1885.7	1867.2	1854.0
40°	1856.8	1835.5	1793.1	1769.6	1758.9
42.5°	1764.2	1742.9	1700.8	1674.2	1658.4
45°	1663.8	1645.3	1605.4	1576.5	1565.8
47.5°	1565.8	1547.3	1504.9	1475.7	1460.1
50°	1462.6	1449.4	1412.3	1375.3	1362.1
52.5°	1362.1	1343.6	1309.4	1280.2	1261.6
55°	1259.1	1243.1	1211.4	1179.7	1166.5
57.5°	1155.9	1142.7	1108.1	1076.4	1065.8
60°	1052.6	1042.2	1005.2	976.0	968.2
62.5°	952.1	933.6	907.3	880.9	870.2
65°	849.2	833.1	806.8	782.9	769.7
67.5°	743.4	729.9	706.3	687.8	677.1
70°	645.4	634.8	610.9	592.4	582.0
72.5°	544.9	534.3	521.1	502.6	494.7
75°	444.2	439.2	425.7	410.0	415.4
77.5°	354.5	343.8	338.4	330.5	322.8
80°	264.6	261.9	256.5	248.6	243.3
82.5°	179.9	179.9	177.3	166.7	166.7
85°	108.4	105.8	103.3	95.1	92.6
87.5°	47.7	42.4	37.1	29.2	26.4
90°	0.9	10.4	28.3	26.6	27.5
92.5°	17.9	24.2	25.1	26.0	26.0
95°	42.2	50.3	51.7	51.7	50.3
97.5°	70.2	77.7	80.9	80.9	80.9
100°	102.5	109.2	111.5	111.5	110.7
102.5°	136.6	141.6	144.7	145.6	144.7
105°	173.9	176.2	177.9	179.4	179.4
107.5°	210.9	214.3	214.3	214.9	210.9
110°	246.7	251.4	251.4	251.4	249.0

TEST NUMBER: P908516

CATALOG NUMBER: DFN2DIP-PN3F0-070D030US840-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	285.4	290.3	289.4	287.1	285.4
115°	323.6	328.1	326.7	325.9	323.6
117.5°	361.3	367.7	363.7	361.3	359.0
120°	399.5	405.9	399.5	399.5	396.9
122.5°	434.1	442.2	438.2	435.9	434.1
125°	470.6	477.8	475.4	472.8	472.0
127.5°	506.0	515.0	511.9	508.4	506.0
130°	539.3	549.7	548.3	546.5	543.3
132.5°	576.5	584.6	585.2	581.2	578.9
135°	608.6	617.5	619.4	618.4	616.1
137.5°	644.4	651.7	653.1	652.6	649.0
140°	675.9	683.2	687.2	687.2	684.0
142.5°	708.3	715.5	717.8	718.7	715.5
145°	738.9	744.7	749.3	750.1	747.0
147.5°	766.4	773.6	777.0	778.5	775.3
150°	794.7	799.6	802.7	805.4	802.7
152.5°	819.8	824.7	828.7	831.9	828.7
155°	845.0	847.2	849.8	853.8	851.3
157.5°	866.6	868.3	869.8	875.6	871.5
160°	886.0	887.7	888.6	893.4	890.0
162.5°	903.8	903.8	904.7	910.2	906.2
165°	919.2	918.3	918.3	924.0	920.0
167.5°	933.0	930.4	930.4	936.1	932.1
170°	943.4	941.1	940.3	946.0	941.1
172.5°	950.6	948.4	947.5	953.2	948.4
175°	956.4	954.1	952.4	958.2	953.2
177.5°	959.6	957.3	955.5	960.5	955.5
180°	958.2	958.2	958.2	958.2	958.2

TEST NUMBER: P908516

CATALOG NUMBER: DFN2DIP-PN3F0-070D030US840-FLLFLL

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	13.14	14.24	13.87	15.00	15.91	12.70	13.80	13.44	14.56	15.47
	3H	14.81	15.80	15.56	16.57	17.52	14.33	15.32	15.08	16.09	17.03
	4H	15.40	16.34	16.17	17.12	18.08	14.92	15.86	15.69	16.63	17.59
	6H	15.81	16.68	16.59	17.46	18.43	15.32	16.19	16.10	16.97	17.94
	8H	15.92	16.75	16.71	17.55	18.52	15.43	16.25	16.22	17.06	18.03
	12H	15.97	16.76	16.77	17.56	18.56	15.48	16.26	16.28	17.06	18.06
4H	2H	13.62	14.56	14.40	15.34	16.29	13.27	14.21	14.05	14.99	15.94
	3H	15.50	16.29	16.29	17.10	18.07	15.10	15.89	15.89	16.70	17.67
	4H	16.22	16.94	17.02	17.75	18.75	15.81	16.52	16.61	17.33	18.33
	6H	16.75	17.36	17.56	18.20	19.21	16.32	16.94	17.14	17.78	18.78
	8H	16.90	17.48	17.72	18.31	19.33	16.47	17.05	17.29	17.88	18.90
	12H	16.98	17.50	17.82	18.35	19.38	16.54	17.06	17.38	17.92	18.94
8H	4H	16.43	17.01	17.26	17.85	18.86	16.06	16.64	16.89	17.47	18.49
	6H	17.07	17.55	17.92	18.42	19.44	16.69	17.17	17.54	18.05	19.07
	8H	17.29	17.71	18.15	18.58	19.62	16.90	17.33	17.77	18.20	19.24
	12H	17.43	17.80	18.29	18.66	19.75	17.03	17.40	17.89	18.26	19.35
12H	4H	16.43	16.95	17.27	17.81	18.83	16.07	16.59	16.91	17.44	18.47
	6H	17.10	17.52	17.96	18.40	19.43	16.73	17.16	17.60	18.03	19.07
	8H	17.35	17.72	18.21	18.59	19.68	16.98	17.35	17.84	18.21	19.30