

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: P908424

Luminaire Tested: DFN2DIP-PN3F0-030D080US840-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P908424
REPORT IS A COMBINATION OF REPORTS P899581 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-030D080US840-FLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

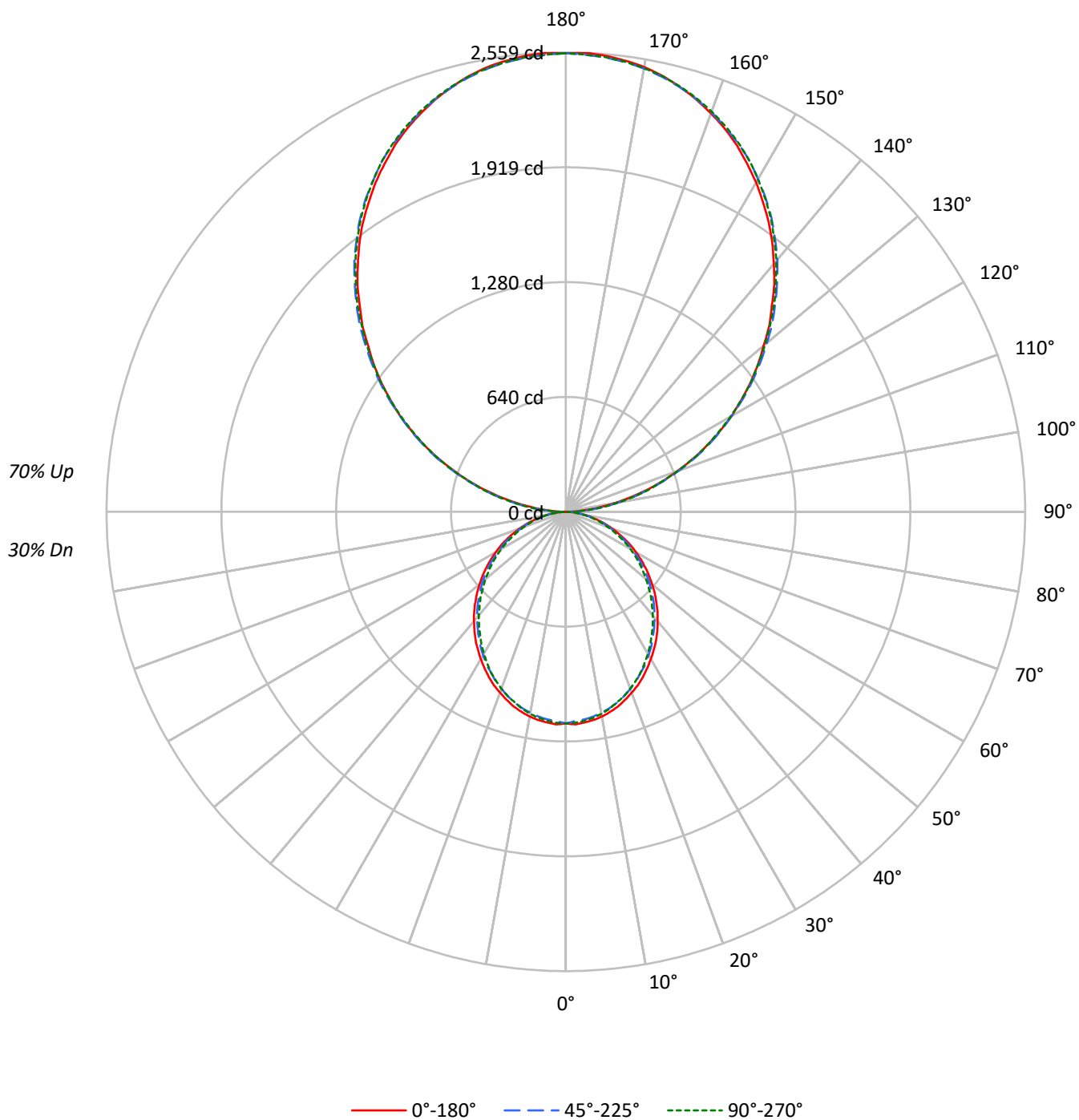
Lumens per Lamp: N/A
Luminaire Lumens: 10149.2 lumens
Efficiency: N/A
Efficacy: 119.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 85.3
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: P908424

CATALOG NUMBER: DFN2DIP-PN3F0-030D080US840-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P908424

CATALOG NUMBER: DFN2DIP-PN3F0-030D080US840-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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37
1	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	32
2	85	78	72	67	76	70	65	61	55	52	49	42	39	37	29	28	27
3	77	68	61	56	69	61	55	51	49	44	41	37	34	32	26	24	23
4	71	60	53	47	63	54	48	43	43	38	35	33	30	27	23	21	19
5	65	54	46	40	58	48	42	37	38	34	30	29	26	23	21	19	17
6	60	48	40	34	53	43	37	32	35	30	26	26	23	20	19	17	15
7	55	43	35	30	49	39	32	28	31	26	23	24	20	18	17	15	13
8	51	39	32	26	46	35	29	24	28	24	20	22	18	16	16	13	12
9	47	35	28	23	42	32	26	22	26	21	18	20	17	14	14	12	11
10	44	32	25	21	40	29	23	19	24	19	16	18	15	13	13	11	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1378	1378	1378
5°	1379	1358	1367
10°	1367	1339	1348
15°	1347	1316	1319
20°	1319	1284	1288
25°	1291	1246	1254
30°	1256	1211	1210
35°	1223	1170	1163
40°	1183	1129	1119
45°	1142	1087	1073
50°	1098	1043	1021
55°	1052	992	972
60°	999	932	917
65°	942	870	851
70°	869	794	780
75°	768	702	714
80°	646	585	589
85°	456	387	384

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2532 cd/sqm

TEST NUMBER: P908424

CATALOG NUMBER: DFN2DIP-PN3F0-030D080US840-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.0	1.1
10°-20°	312.2	3.1
20°-30°	458.8	4.5
30°-40°	532.8	5.3
40°-50°	532.2	5.2
50°-60°	464.1	4.6
60°-70°	343.1	3.4
70°-80°	194.1	1.9
80°-90°	58.5	0.6
90°-100°	158.1	1.6
100°-110°	502.4	4.9
110°-120°	859.7	8.5
120°-130°	1130.6	11.1
130°-140°	1269.1	12.5
140°-150°	1244.5	12.3
150°-160°	1043.9	10.3
160°-170°	692.3	6.8
170°-180°	242.0	2.4
0°-30°	881.9	8.7
0°-40°	1414.7	13.9
0°-60°	2411.0	23.8
0°-90°	3006.6	29.6
90°-120°	1520.1	15.0
90°-150°	5164.3	50.9
90°-180°	7143.0	70.4
0°-180°	10149.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1179	1179	1179	1179	1179	
5°	1179	1174	1162	1171	1169	112
15°	1122	1116	1101	1105	1100	316
25°	1016	1007	987	990	987	467
35°	876	865	847	840	834	547
45°	713	705	688	676	671	550
55°	540	533	519	506	500	482
65°	364	357	346	336	330	360
75°	190	188	182	176	178	203
85°	46	45	44	41	40	52
90°	2	28	76	71	73	10
95°	112	134	138	138	134	125
105°	464	470	474	478	478	489
115°	863	875	871	869	863	853
125°	1255	1274	1268	1261	1259	1121
135°	1623	1647	1652	1649	1643	1254
145°	1970	1986	1998	2000	1992	1231
155°	2253	2259	2266	2277	2270	1037
165°	2451	2449	2449	2464	2453	691
175°	2550	2544	2540	2555	2542	242
180°	2555	2555	2555	2555	2555	

TEST NUMBER: P908424

CATALOG NUMBER: DFN2DIP-PN3F0-030D080US840-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1178.8	1178.8	1178.8	1178.8	1178.8
2.5°	1185.7	1180.0	1167.5	1178.8	1176.7
5°	1178.8	1174.4	1161.9	1170.9	1168.7
7.5°	1170.9	1164.2	1151.7	1160.8	1158.5
10°	1158.5	1150.5	1137.0	1146.0	1142.7
12.5°	1141.5	1134.7	1121.2	1126.7	1124.5
15°	1122.2	1115.5	1100.7	1105.2	1099.5
17.5°	1098.3	1091.7	1076.8	1082.5	1076.8
20°	1072.3	1065.5	1049.7	1053.0	1048.5
22.5°	1046.3	1036.1	1021.3	1021.3	1019.0
25°	1015.6	1006.6	987.3	989.6	987.3
27.5°	981.6	973.6	959.0	955.6	950.0
30°	947.7	938.6	921.6	918.2	913.6
32.5°	911.4	904.6	886.5	879.6	875.0
35°	876.3	864.9	846.8	839.9	834.2
37.5°	836.6	826.4	808.2	800.2	794.6
40°	795.8	786.7	768.5	758.4	753.9
42.5°	756.1	747.0	728.9	717.5	710.7
45°	713.1	705.1	688.0	675.6	671.1
47.5°	671.1	663.2	645.0	632.5	625.7
50°	626.8	621.2	605.3	589.5	583.8
52.5°	583.8	575.8	561.2	548.7	540.7
55°	539.7	532.8	519.2	505.6	500.0
57.5°	495.3	489.7	474.9	461.3	456.8
60°	451.1	446.7	430.8	418.3	415.0
62.5°	408.1	400.1	388.8	377.5	372.9
65°	364.0	357.1	345.8	335.6	329.9
67.5°	318.6	312.9	302.7	294.8	290.2
70°	276.6	272.1	261.9	253.9	249.4
72.5°	233.6	228.9	223.3	215.4	212.1
75°	190.4	188.2	182.5	175.7	178.0
77.5°	151.9	147.3	145.0	141.7	138.4
80°	113.4	112.2	109.9	106.5	104.3
82.5°	77.1	77.1	76.0	71.4	71.4
85°	46.5	45.3	44.2	40.8	39.7
87.5°	20.4	18.2	15.9	12.5	11.3
90°	2.3	27.8	75.5	70.9	73.2
92.5°	47.8	64.7	67.1	69.3	69.3
95°	112.5	134.0	137.8	137.8	134.0
97.5°	187.2	207.2	215.7	215.7	215.7
100°	273.5	291.1	297.3	297.3	295.0
102.5°	364.4	377.5	385.9	388.2	385.9
105°	463.7	469.9	474.5	478.4	478.4
107.5°	562.3	571.6	571.6	573.1	562.3
110°	657.8	670.1	670.1	670.1	664.0

TEST NUMBER: P908424

CATALOG NUMBER: DFN2DIP-PN3F0-030D080US840-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	761.0	774.2	771.8	765.7	761.0
115°	862.7	875.0	871.2	868.9	862.7
117.5°	963.6	980.6	969.8	963.6	957.5
120°	1065.3	1082.3	1065.3	1065.3	1058.3
122.5°	1157.7	1179.3	1168.5	1162.4	1157.7
125°	1254.8	1274.0	1267.9	1260.9	1258.7
127.5°	1349.6	1373.4	1364.9	1355.7	1349.6
130°	1438.1	1465.8	1462.0	1457.4	1449.0
132.5°	1537.5	1559.0	1560.6	1549.8	1543.7
135°	1623.0	1646.9	1651.5	1649.2	1643.1
137.5°	1718.5	1737.8	1741.6	1740.1	1730.8
140°	1802.5	1821.7	1832.5	1832.5	1824.0
142.5°	1888.8	1908.0	1914.2	1916.5	1908.0
145°	1970.4	1985.8	1998.1	2000.4	1992.0
147.5°	2043.6	2062.9	2072.0	2076.0	2067.5
150°	2119.1	2132.1	2140.6	2147.6	2140.6
152.5°	2186.1	2199.2	2210.0	2218.5	2210.0
155°	2253.1	2259.3	2266.2	2276.9	2270.1
157.5°	2310.9	2315.5	2319.4	2334.7	2324.0
160°	2362.5	2367.1	2369.4	2382.5	2373.3
162.5°	2410.2	2410.2	2412.6	2427.2	2416.4
165°	2451.0	2448.7	2448.7	2464.2	2453.4
167.5°	2488.0	2481.1	2481.1	2496.5	2485.7
170°	2515.8	2509.6	2507.3	2522.7	2509.6
172.5°	2535.1	2528.9	2526.6	2541.9	2528.9
175°	2550.4	2544.3	2539.6	2555.1	2541.9
177.5°	2558.9	2552.7	2548.1	2561.2	2548.1
180°	2555.1	2555.1	2555.1	2555.1	2555.1

TEST NUMBER: P908424

CATALOG NUMBER: DFN2DIP-PN3F0-030D080US840-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	6.08	6.78	7.19	7.89	9.43	5.64	6.34	6.75	7.45	8.99
	3H	7.72	8.35	8.84	9.47	11.02	7.24	7.87	8.36	8.99	10.54
	4H	8.30	8.90	9.43	10.01	11.57	7.81	8.41	8.94	9.53	11.09
	6H	8.68	9.23	9.82	10.36	11.92	8.19	8.75	9.34	9.87	11.43
	8H	8.78	9.31	9.93	10.44	12.00	8.29	8.82	9.44	9.95	11.51
	12H	8.82	9.32	9.97	10.45	12.03	8.33	8.82	9.47	9.95	11.54
4H	2H	6.52	7.12	7.66	8.23	9.79	6.17	6.76	7.31	7.88	9.44
	3H	8.36	8.86	9.51	10.00	11.57	7.96	8.46	9.10	9.60	11.17
	4H	9.06	9.52	10.21	10.66	12.25	8.65	9.11	9.80	10.24	11.83
	6H	9.56	9.96	10.72	11.11	12.69	9.14	9.54	10.30	10.69	12.27
	8H	9.71	10.07	10.86	11.22	12.82	9.28	9.65	10.43	10.80	12.39
	12H	9.77	10.10	10.94	11.26	12.86	9.33	9.67	10.50	10.82	12.43
8H	4H	9.24	9.61	10.40	10.76	12.35	8.87	9.24	10.03	10.39	11.98
	6H	9.86	10.16	11.03	11.35	12.95	9.49	9.79	10.66	10.98	12.57
	8H	10.08	10.34	11.25	11.51	13.12	9.69	9.96	10.87	11.13	12.74
	12H	10.20	10.43	11.38	11.59	13.24	9.80	10.03	10.98	11.19	12.84
12H	4H	9.22	9.55	10.39	10.71	12.31	8.86	9.19	10.03	10.35	11.95
	6H	9.89	10.15	11.07	11.32	12.93	9.52	9.79	10.70	10.96	12.57
	8H	10.12	10.35	11.30	11.51	13.16	9.75	9.98	10.93	11.14	12.79