

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: P905374

Luminaire Tested: DFN2DIP-HX3F0-080D050US835-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905374
REPORT IS A COMBINATION OF REPORTS P899239 AND P896089
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX3F0-080D050US835-FLLFL
Description: 3 foot, Hexagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

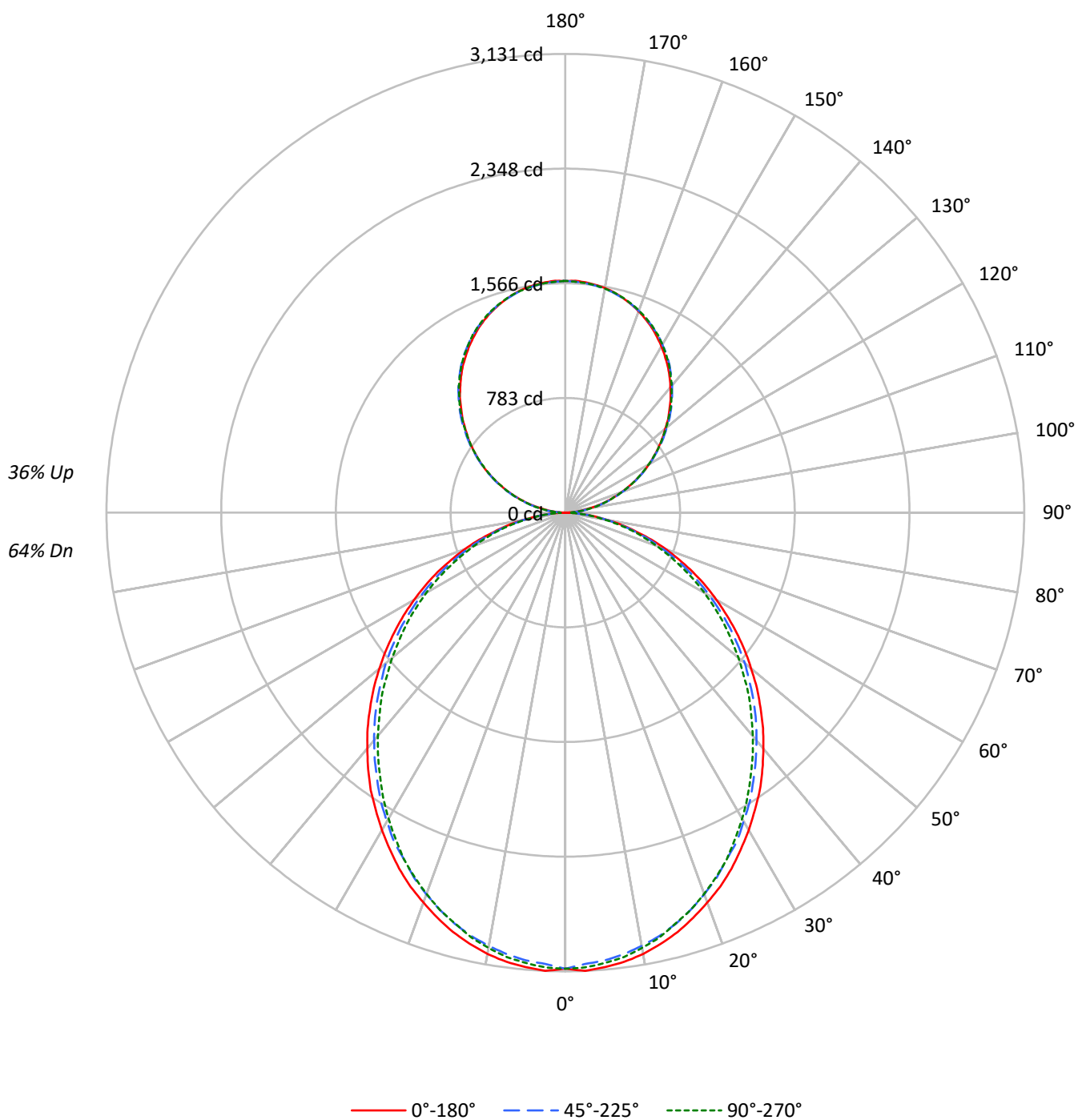
Lumens per Lamp: N/A
Luminaire Lumens: 12345.0 lumens
Efficiency: N/A
Efficacy: 105.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.84' x L: 3.28' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 116.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P905374

CATALOG NUMBER: DFN2DIP-HX3F0-080D050US835-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P905374

CATALOG NUMBER: DFN2DIP-HX3F0-080D050US835-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	111	111	111	111	104	104	104	104	91	91	91	80	80	80	69	69	69
1	101	97	93	89	95	91	87	84	80	77	75	70	68	66	61	60	58
2	92	84	78	73	86	79	74	69	70	66	62	62	58	56	54	51	49
3	84	74	67	61	79	70	63	58	62	57	52	55	50	47	48	45	42
4	77	66	58	51	72	62	55	49	55	49	45	49	44	40	43	39	36
5	71	59	50	44	66	55	48	42	49	43	39	44	39	35	38	35	32
6	65	53	44	38	61	50	42	37	45	38	34	40	35	31	35	31	28
7	60	48	40	34	56	45	38	32	40	34	30	36	31	27	32	28	25
8	56	43	35	30	53	41	34	29	37	31	27	33	28	24	29	25	22
9	52	40	32	27	49	38	31	26	34	28	24	30	26	22	27	23	20
10	49	37	29	24	46	35	28	23	31	26	22	28	23	20	25	21	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3606	3606	3606
5°	3610	3553	3578
10°	3579	3503	3527
15°	3525	3442	3449
20°	3452	3360	3370
25°	3380	3262	3278
30°	3289	3170	3163
35°	3203	3062	3040
40°	3098	2953	2923
45°	2993	2844	2804
50°	2878	2729	2666
55°	2757	2596	2538
60°	2621	2439	2392
65°	2472	2275	2220
70°	2282	2076	2034
75°	2020	1837	1859
80°	1703	1532	1530
85°	1208	1014	993

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2993 cd/sqm

TEST NUMBER: P905374

CATALOG NUMBER: DFN2DIP-HX3F0-080D050US835-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	293.0	2.4
10°-20°	824.3	6.7
20°-30°	1211.5	9.8
30°-40°	1407.0	11.4
40°-50°	1405.3	11.4
50°-60°	1225.4	9.9
60°-70°	905.8	7.3
70°-80°	512.5	4.2
80°-90°	139.8	1.1
90°-100°	97.8	0.8
100°-110°	310.9	2.5
110°-120°	532.1	4.3
120°-130°	699.7	5.7
130°-140°	785.4	6.4
140°-150°	770.2	6.2
150°-160°	646.1	5.2
160°-170°	428.5	3.5
170°-180°	149.8	1.2
0°-30°	2328.8	18.9
0°-40°	3735.8	30.3
0°-60°	6366.4	51.6
0°-90°	7924.5	64.2
90°-120°	940.8	7.6
90°-150°	3196.2	25.9
90°-180°	4421.0	35.8
0°-180°	12345.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3113	3113	3113	3113	3113	
5°	3113	3101	3068	3092	3086	295
15°	2963	2946	2906	2918	2904	835
25°	2682	2658	2607	2613	2607	1234
35°	2314	2284	2236	2218	2203	1445
45°	1883	1862	1817	1784	1772	1453
55°	1425	1407	1371	1335	1320	1274
65°	961	943	913	886	871	950
75°	503	497	482	464	470	537
85°	123	120	117	108	105	137
90°	1	17	47	44	45	12
95°	70	83	85	85	83	77
105°	287	291	294	296	296	303
115°	534	542	539	538	534	528
125°	777	788	785	780	779	694
135°	1004	1019	1022	1021	1017	776
145°	1220	1229	1237	1238	1233	762
155°	1394	1398	1402	1409	1405	642
165°	1517	1516	1516	1525	1518	428
175°	1578	1575	1572	1581	1573	150
180°	1581	1581	1581	1581	1581	

TEST NUMBER: P905374

CATALOG NUMBER: DFN2DIP-HX3F0-080D050US835-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3112.8	3112.8	3112.8	3112.8	3112.8
2.5°	3130.9	3116.0	3083.0	3112.8	3107.1
5°	3112.8	3101.1	3068.1	3091.9	3086.2
7.5°	3091.9	3074.1	3041.1	3065.2	3059.2
10°	3059.2	3038.2	3002.3	3026.1	3017.3
12.5°	3014.1	2996.3	2960.4	2975.3	2969.3
15°	2963.3	2945.5	2906.4	2918.5	2903.6
17.5°	2900.4	2882.6	2843.5	2858.5	2843.5
20°	2831.5	2813.7	2771.8	2780.7	2768.9
22.5°	2762.9	2735.9	2696.8	2696.8	2690.8
25°	2681.9	2658.1	2607.3	2613.0	2607.3
27.5°	2592.0	2571.1	2532.3	2523.4	2508.5
30°	2502.5	2478.3	2433.6	2424.7	2412.6
32.5°	2406.6	2388.8	2340.8	2322.7	2310.7
35°	2313.8	2284.0	2236.0	2217.9	2203.0
37.5°	2209.0	2182.0	2134.1	2113.1	2098.2
40°	2101.4	2077.2	2029.3	2002.6	1990.5
42.5°	1996.6	1972.4	1924.8	1894.6	1876.9
45°	1882.9	1861.9	1816.8	1784.1	1772.1
47.5°	1772.1	1751.1	1703.1	1670.1	1652.3
50°	1655.2	1640.3	1598.3	1556.4	1541.5
52.5°	1541.5	1520.5	1481.8	1448.8	1427.8
55°	1424.9	1406.8	1371.0	1335.1	1320.1
57.5°	1308.1	1293.2	1254.1	1218.2	1206.1
60°	1191.2	1179.5	1137.5	1104.5	1095.6
62.5°	1077.5	1056.6	1026.7	996.9	984.8
65°	961.0	942.9	913.0	886.0	871.1
67.5°	841.2	826.0	799.3	778.4	766.3
70°	730.4	718.3	691.4	670.4	658.6
72.5°	616.7	604.7	589.7	568.8	559.9
75°	502.7	497.0	481.8	464.0	470.0
77.5°	401.1	389.0	383.0	374.1	365.2
80°	299.5	296.3	290.3	281.4	275.3
82.5°	203.6	203.6	200.7	188.6	188.6
85°	122.6	119.7	116.9	107.7	104.8
87.5°	54.0	48.0	41.9	33.0	29.9
90°	1.4	17.2	46.7	43.9	45.3
92.5°	29.6	40.0	41.5	42.9	42.9
95°	69.6	83.0	85.3	85.3	83.0
97.5°	115.8	128.2	133.5	133.5	133.5
100°	169.2	180.2	184.0	184.0	182.6
102.5°	225.5	233.6	238.8	240.3	238.8
105°	287.0	290.8	293.7	296.0	296.0
107.5°	348.0	353.7	353.7	354.7	348.0
110°	407.1	414.8	414.8	414.8	410.9



TEST NUMBER: P905374

CATALOG NUMBER: DFN2DIP-HX3F0-080D050US835-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	471.0	479.1	477.7	473.9	471.0
115°	533.9	541.6	539.2	537.8	533.9
117.5°	596.4	606.9	600.2	596.4	592.6
120°	659.3	669.8	659.3	659.3	655.0
122.5°	716.5	729.9	723.2	719.4	716.5
125°	776.6	788.5	784.7	780.4	779.0
127.5°	835.2	850.0	844.8	839.0	835.2
130°	890.1	907.2	904.8	902.0	896.7
132.5°	951.6	964.9	965.9	959.2	955.4
135°	1004.5	1019.2	1022.1	1020.7	1016.9
137.5°	1063.6	1075.5	1077.9	1076.9	1071.2
140°	1115.5	1127.5	1134.1	1134.1	1128.9
142.5°	1168.9	1180.9	1184.7	1186.1	1180.9
145°	1219.5	1229.0	1236.6	1238.1	1232.8
147.5°	1264.8	1276.7	1282.4	1284.8	1279.5
150°	1311.5	1319.6	1324.8	1329.1	1324.8
152.5°	1353.0	1361.1	1367.7	1373.0	1367.7
155°	1394.4	1398.2	1402.5	1409.2	1404.9
157.5°	1430.2	1433.0	1435.4	1445.0	1438.3
160°	1462.1	1465.0	1466.4	1474.5	1468.8
162.5°	1491.7	1491.7	1493.1	1502.2	1495.5
165°	1517.0	1515.5	1515.5	1525.1	1518.4
167.5°	1539.8	1535.5	1535.5	1545.1	1538.4
170°	1557.0	1553.2	1551.8	1561.3	1553.2
172.5°	1568.9	1565.1	1563.7	1573.2	1565.1
175°	1578.5	1574.6	1571.8	1581.3	1573.2
177.5°	1583.7	1579.9	1577.0	1585.1	1577.0
180°	1581.3	1581.3	1581.3	1581.3	1581.3

TEST NUMBER: P905374

CATALOG NUMBER: DFN2DIP-HX3F0-080D050US835-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	12.90	13.90	13.72	14.75	15.81	12.47	13.48	13.29	14.32	15.38
	3H	14.56	15.47	15.40	16.32	17.40	14.09	15.00	14.93	15.85	16.93
	4H	15.15	16.00	16.01	16.87	17.96	14.68	15.54	15.54	16.40	17.49
	6H	15.55	16.34	16.42	17.21	18.32	15.08	15.87	15.95	16.74	17.84
	8H	15.66	16.41	16.53	17.30	18.40	15.19	15.94	16.06	16.83	17.93
	12H	15.71	16.42	16.59	17.31	18.44	15.23	15.95	16.11	16.83	17.96
4H	2H	13.38	14.23	14.23	15.09	16.18	13.03	13.88	13.89	14.75	15.84
	3H	15.25	15.96	16.12	16.85	17.96	14.86	15.57	15.73	16.46	17.57
	4H	15.96	16.61	16.84	17.50	18.63	15.56	16.21	16.44	17.10	18.23
	6H	16.48	17.04	17.37	17.95	19.09	16.07	16.63	16.97	17.55	18.68
	8H	16.62	17.15	17.52	18.06	19.21	16.22	16.74	17.12	17.65	18.80
	12H	16.70	17.17	17.62	18.10	19.26	16.28	16.76	17.20	17.69	18.84
8H	4H	16.16	16.69	17.06	17.60	18.75	15.81	16.33	16.71	17.24	18.39
	6H	16.79	17.23	17.72	18.18	19.33	16.43	16.87	17.36	17.82	18.97
	8H	17.01	17.39	17.95	18.34	19.50	16.64	17.03	17.58	17.97	19.14
	12H	17.14	17.48	18.08	18.42	19.63	16.76	17.10	17.70	18.04	19.26
12H	4H	16.16	16.63	17.08	17.56	18.71	15.81	16.28	16.73	17.21	18.36
	6H	16.82	17.21	17.76	18.15	19.32	16.47	16.86	17.41	17.80	18.97
	8H	17.06	17.40	18.01	18.34	19.56	16.71	17.05	17.65	17.99	19.20