

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: P913394

Luminaire Tested: DFN2DIP-HX2F0-050D030US927-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913394
REPORT IS A COMBINATION OF REPORTS P899167 AND P896039
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-050D030US927-FLLFLL
Description: 2 foot, Hexagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

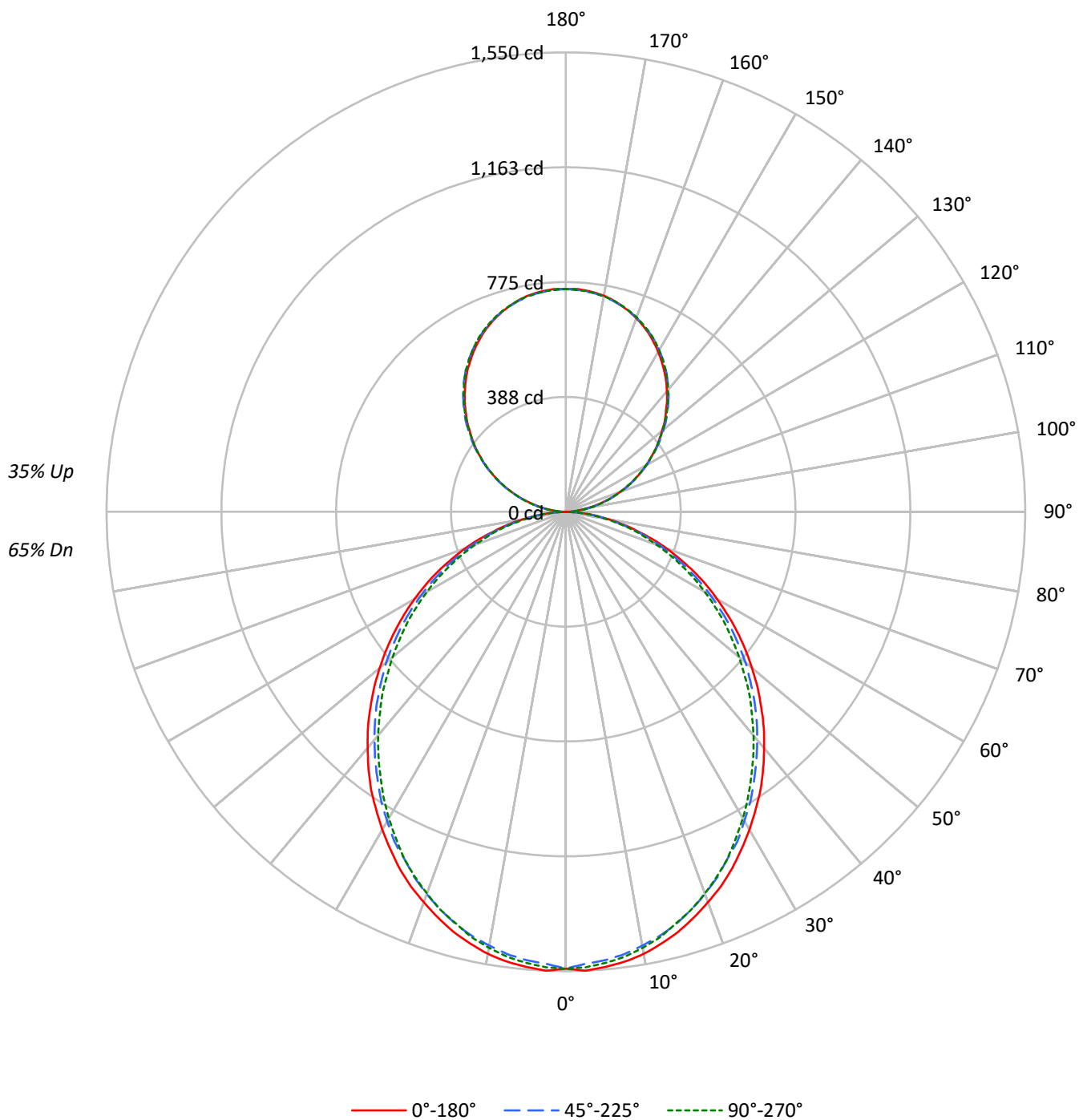
Lumens per Lamp: N/A
Luminaire Lumens: 6024.5 lumens
Efficiency: N/A
Efficacy: 86.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 69.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P913394

CATALOG NUMBER: DFN2DIP-HX2F0-050D030US927-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P913394

CATALOG NUMBER: DFN2DIP-HX2F0-050D030US927-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	92	92	92	80	80	80	70	70	70
1	101	97	93	89	95	91	88	84	81	78	75	71	69	67	62	60	59
2	92	85	78	73	86	80	74	69	71	66	63	62	59	56	55	52	50
3	84	74	67	61	79	70	63	58	62	57	53	55	51	47	48	45	42
4	77	66	58	52	72	62	55	49	55	50	45	49	44	41	43	40	37
5	71	59	50	44	66	56	48	42	50	44	39	44	39	35	39	35	32
6	65	53	45	39	61	50	43	37	45	39	34	40	35	31	35	31	28
7	60	48	40	34	57	45	38	33	41	35	30	36	31	28	32	28	25
8	56	44	36	30	53	41	34	29	37	31	27	33	28	25	30	26	22
9	52	40	32	27	49	38	31	26	34	28	24	31	26	22	27	23	20
10	49	37	29	24	46	35	28	23	32	26	22	28	24	20	25	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3631	3631	3631
5°	3631	3572	3598
10°	3596	3515	3543
15°	3537	3449	3460
20°	3460	3360	3376
25°	3383	3255	3279
30°	3288	3157	3158
35°	3198	3043	3031
40°	3087	2927	2909
45°	2977	2811	2783
50°	2856	2688	2639
55°	2728	2547	2505
60°	2584	2380	2352
65°	2426	2206	2171
70°	2225	1995	1974
75°	1949	1740	1784
80°	1614	1417	1439
85°	1096	889	891

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2977 cd/sqm

TEST NUMBER: P913394

CATALOG NUMBER: DFN2DIP-HX2F0-050D030US927-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.1	2.4
10°-20°	408.1	6.8
20°-30°	599.8	10.0
30°-40°	696.6	11.6
40°-50°	695.8	11.5
50°-60°	606.7	10.1
60°-70°	448.5	7.4
70°-80°	253.7	4.2
80°-90°	69.1	1.1
90°-100°	46.5	0.8
100°-110°	147.8	2.5
110°-120°	252.9	4.2
120°-130°	332.6	5.5
130°-140°	373.3	6.2
140°-150°	366.1	6.1
150°-160°	307.1	5.1
160°-170°	203.7	3.4
170°-180°	71.2	1.2
0°-30°	1153.0	19.1
0°-40°	1849.6	30.7
0°-60°	3152.1	52.3
0°-90°	3923.4	65.1
90°-120°	447.2	7.4
90°-150°	1519.2	25.2
90°-180°	2101.0	34.9
0°-180°	6024.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1541	1541	1541	1541	1541	
5°	1541	1535	1519	1531	1528	146
15°	1467	1458	1439	1445	1438	413
25°	1328	1316	1291	1294	1291	611
35°	1146	1131	1107	1098	1091	715
45°	932	922	900	883	877	719
55°	706	697	679	661	654	631
65°	476	467	452	439	431	470
75°	249	246	238	230	233	266
85°	61	59	58	53	52	68
90°	1	8	22	21	22	6
95°	33	40	41	41	40	37
105°	136	138	140	141	141	144
115°	254	257	256	256	254	251
125°	369	375	373	371	370	330
135°	477	484	486	485	483	369
145°	580	584	588	588	586	362
155°	663	665	667	670	668	305
165°	721	720	720	725	722	203
175°	750	748	747	752	748	71
180°	752	752	752	752	752	

TEST NUMBER: P913394

CATALOG NUMBER: DFN2DIP-HX2F0-050D030US927-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1541.2	1541.2	1541.2	1541.2	1541.2
2.5°	1550.1	1542.8	1526.5	1541.2	1538.4
5°	1541.2	1535.4	1519.0	1530.8	1528.0
7.5°	1530.8	1522.0	1505.7	1517.7	1514.7
10°	1514.7	1504.3	1486.5	1498.3	1493.9
12.5°	1492.3	1483.5	1465.8	1473.1	1470.1
15°	1467.1	1458.3	1439.0	1445.0	1437.6
17.5°	1436.0	1427.2	1407.9	1415.2	1407.9
20°	1401.9	1393.1	1372.4	1376.7	1370.9
22.5°	1367.9	1354.6	1335.2	1335.2	1332.2
25°	1327.9	1316.1	1290.9	1293.7	1290.9
27.5°	1283.3	1273.0	1253.8	1249.3	1242.0
30°	1239.0	1227.1	1204.9	1200.5	1194.5
32.5°	1191.5	1182.7	1159.0	1150.0	1144.1
35°	1145.6	1130.8	1107.1	1098.1	1090.8
37.5°	1093.7	1080.4	1056.6	1046.2	1038.9
40°	1040.5	1028.5	1004.7	991.5	985.6
42.5°	988.6	976.6	953.0	938.0	929.2
45°	932.2	921.9	899.5	883.4	877.3
47.5°	877.3	867.0	843.3	826.9	818.1
50°	819.5	812.1	791.4	770.6	763.2
52.5°	763.2	752.8	733.6	717.3	706.9
55°	705.5	696.6	678.7	661.0	653.6
57.5°	647.6	640.2	620.9	603.2	597.1
60°	589.8	584.0	563.2	546.8	542.5
62.5°	533.5	523.2	508.3	493.5	487.6
65°	475.8	466.8	452.0	438.7	431.3
67.5°	416.5	409.0	395.8	385.4	379.4
70°	361.6	355.7	342.3	331.9	326.1
72.5°	305.4	299.4	292.0	281.6	277.2
75°	248.9	246.1	238.5	229.7	232.7
77.5°	198.6	192.6	189.6	185.2	180.9
80°	148.3	146.7	143.7	139.3	136.3
82.5°	100.8	100.8	99.3	93.4	93.4
85°	60.7	59.3	57.8	53.3	51.9
87.5°	26.7	23.8	20.8	16.3	14.8
90°	0.7	8.2	22.2	20.8	21.5
92.5°	14.0	19.0	19.7	20.4	20.4
95°	33.1	39.5	40.6	40.6	39.5
97.5°	55.1	60.9	63.5	63.5	63.5
100°	80.4	85.6	87.5	87.5	86.8
102.5°	107.2	111.1	113.5	114.2	113.5
105°	136.4	138.2	139.6	140.7	140.7
107.5°	165.4	168.1	168.1	168.6	165.4
110°	193.5	197.2	197.2	197.2	195.4

TEST NUMBER: P913394

CATALOG NUMBER: DFN2DIP-HX2F0-050D030US927-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	223.9	227.8	227.0	225.2	223.9
115°	253.8	257.4	256.3	255.6	253.8
117.5°	283.4	288.4	285.3	283.4	281.6
120°	313.4	318.4	313.4	313.4	311.3
122.5°	340.6	346.9	343.7	341.9	340.6
125°	369.2	374.8	373.0	370.9	370.3
127.5°	397.0	404.0	401.6	398.8	397.0
130°	423.0	431.2	430.1	428.7	426.2
132.5°	452.3	458.6	459.1	455.9	454.1
135°	477.4	484.4	485.8	485.1	483.3
137.5°	505.5	511.2	512.3	511.9	509.1
140°	530.2	535.9	539.1	539.1	536.5
142.5°	555.6	561.3	563.1	563.8	561.3
145°	579.6	584.2	587.8	588.4	586.0
147.5°	601.2	606.8	609.5	610.7	608.2
150°	623.4	627.2	629.7	631.8	629.7
152.5°	643.1	646.9	650.1	652.6	650.1
155°	662.8	664.6	666.6	669.8	667.8
157.5°	679.8	681.1	682.3	686.8	683.7
160°	695.0	696.3	697.0	700.8	698.1
162.5°	709.0	709.0	709.7	714.0	710.8
165°	721.0	720.3	720.3	724.8	721.7
167.5°	731.9	729.8	729.8	734.4	731.2
170°	740.1	738.2	737.6	742.1	738.2
172.5°	745.7	743.9	743.2	747.7	743.9
175°	750.3	748.5	747.1	751.6	747.7
177.5°	752.7	750.9	749.6	753.4	749.6
180°	751.6	751.6	751.6	751.6	751.6

TEST NUMBER: P913394

CATALOG NUMBER: DFN2DIP-HX2F0-050D030US927-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	13.92	13.72	14.76	15.80	12.48	13.50	13.30	14.34	15.37
	3H	14.55	15.46	15.38	16.31	17.38	14.09	15.00	14.92	15.85	16.92
	4H	15.13	15.99	15.97	16.85	17.92	14.67	15.53	15.52	16.39	17.46
	6H	15.52	16.31	16.37	17.17	18.26	15.06	15.85	15.92	16.72	17.81
	8H	15.62	16.37	16.48	17.26	18.34	15.16	15.92	16.03	16.80	17.89
	12H	15.66	16.38	16.53	17.26	18.37	15.20	15.92	16.07	16.80	17.91
4H	2H	13.37	14.24	14.22	15.09	16.17	13.04	13.90	13.89	14.75	15.83
	3H	15.23	15.94	16.09	16.83	17.92	14.84	15.56	15.70	16.45	17.54
	4H	15.93	16.58	16.80	17.47	18.58	15.53	16.19	16.41	17.07	18.19
	6H	16.43	16.99	17.32	17.90	19.02	16.03	16.60	16.92	17.51	18.63
	8H	16.57	17.10	17.46	18.00	19.14	16.17	16.70	17.06	17.60	18.74
	12H	16.64	17.11	17.55	18.04	19.18	16.23	16.71	17.14	17.63	18.77
8H	4H	16.12	16.65	17.02	17.56	18.69	15.77	16.30	16.66	17.21	18.34
	6H	16.73	17.17	17.65	18.12	19.25	16.38	16.82	17.30	17.76	18.90
	8H	16.94	17.33	17.87	18.26	19.42	16.58	16.97	17.51	17.91	19.06
	12H	17.06	17.40	17.99	18.33	19.54	16.69	17.03	17.62	17.96	19.17
12H	4H	16.11	16.59	17.03	17.51	18.65	15.77	16.25	16.68	17.17	18.31
	6H	16.76	17.15	17.69	18.09	19.24	16.42	16.81	17.35	17.74	18.90
	8H	16.99	17.33	17.92	18.26	19.46	16.64	16.99	17.58	17.92	19.12