

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: P913478

Luminaire Tested: DFN2DIP-HX3F0-050D030US927-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913478
REPORT IS A COMBINATION OF REPORTS P899205 AND P896089
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX3F0-050D030US927-FLLFLL
Description: 3 foot, Hexagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

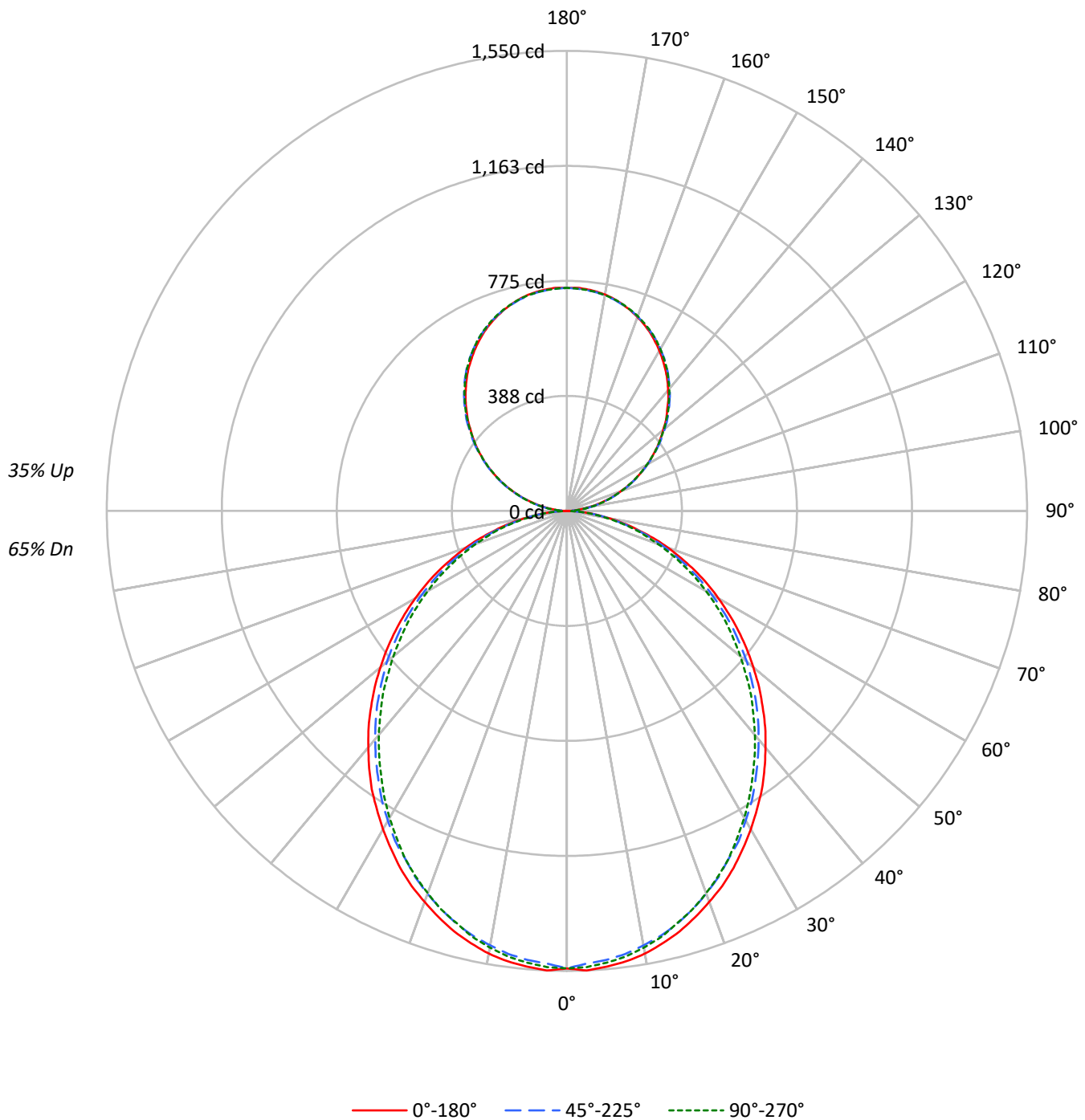
Lumens per Lamp: N/A
Luminaire Lumens: 6024.5 lumens
Efficiency: N/A
Efficacy: 89.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.84' x L: 3.28' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 67.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P913478

CATALOG NUMBER: DFN2DIP-HX3F0-050D030US927-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P913478

CATALOG NUMBER: DFN2DIP-HX3F0-050D030US927-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°	1785	1785	1785
5°	1787	1759	1771
10°	1772	1734	1746
15°	1745	1704	1708
20°	1709	1664	1668
25°	1673	1615	1623
30°	1629	1569	1566
35°	1586	1516	1505
40°	1534	1462	1448
45°	1482	1408	1388
50°	1425	1351	1320
55°	1365	1285	1257
60°	1298	1207	1184
65°	1224	1127	1099
70°	1130	1028	1007
75°	1000	910	920
80°	843	758	758
85°	598	502	492

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1482 cd/sqm

TEST NUMBER: P913478

CATALOG NUMBER: DFN2DIP-HX3F0-050D030US927-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: P913478

CATALOG NUMBER: DFN2DIP-HX3F0-050D030US927-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: P913478

CATALOG NUMBER: DFN2DIP-HX3F0-050D030US927-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

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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	10.53	11.55	11.35	12.38	13.42	10.10	11.12	10.92	11.96	12.99
	3H	12.19	13.11	13.02	13.95	15.02	11.73	12.64	12.55	13.49	14.55
	4H	12.78	13.65	13.63	14.50	15.58	12.32	13.18	13.16	14.03	15.11
	6H	13.19	13.98	14.04	14.84	15.93	12.72	13.51	13.57	14.37	15.46
	8H	13.29	14.05	14.16	14.93	16.02	12.82	13.58	13.69	14.46	15.55
	12H	13.34	14.06	14.21	14.94	16.06	12.87	13.59	13.74	14.46	15.58
4H	2H	11.01	11.87	11.86	12.72	13.80	10.67	11.53	11.51	12.38	13.46
	3H	12.88	13.60	13.74	14.49	15.58	12.49	13.21	13.35	14.10	15.19
	4H	13.59	14.25	14.47	15.13	16.25	13.19	13.85	14.07	14.73	15.85
	6H	14.11	14.68	15.00	15.59	16.71	13.71	14.27	14.59	15.18	16.30
	8H	14.26	14.79	15.15	15.69	16.83	13.85	14.38	14.74	15.29	16.42
	12H	14.34	14.81	15.25	15.74	16.88	13.92	14.40	14.83	15.32	16.46
8H	4H	13.80	14.33	14.69	15.23	16.37	13.44	13.97	14.33	14.87	16.01
	6H	14.43	14.87	15.35	15.81	16.95	14.07	14.51	14.99	15.45	16.59
	8H	14.64	15.03	15.57	15.97	17.12	14.28	14.67	15.21	15.61	16.76
	12H	14.78	15.12	15.71	16.05	17.25	14.40	14.74	15.33	15.67	16.87
12H	4H	13.79	14.27	14.70	15.19	16.33	13.44	13.92	14.35	14.84	15.98
	6H	14.46	14.85	15.39	15.78	16.94	14.11	14.50	15.04	15.44	16.59
	8H	14.70	15.04	15.63	15.97	17.18	14.35	14.69	15.28	15.62	16.82