

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: P913367

Luminaire Tested: DFN2DIP-HX2F0-030D060US927-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913367
REPORT IS A COMBINATION OF REPORTS P900713 AND P897595
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-030D060US927-FLLONL
Description: 2 foot, Hexagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

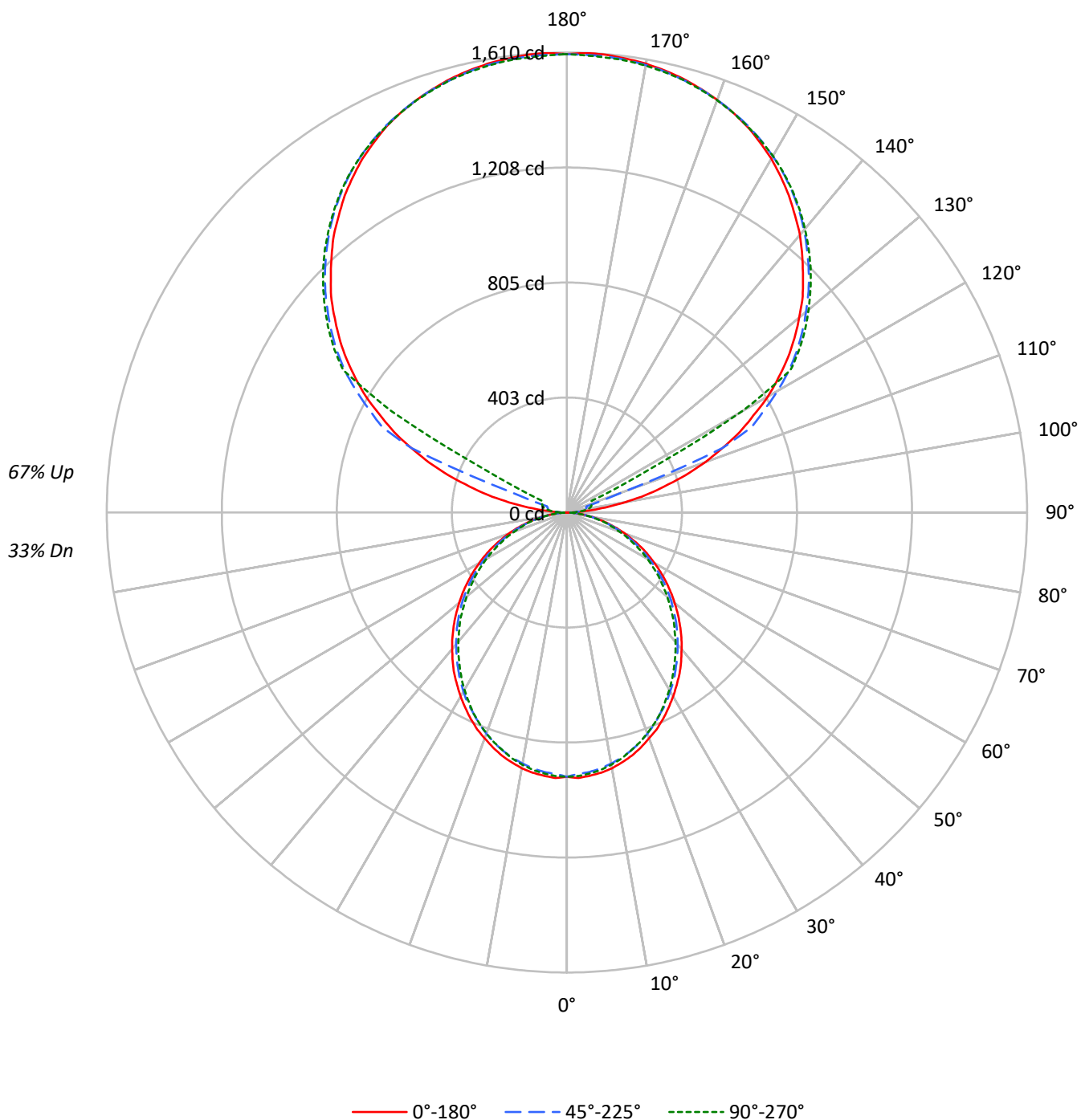
Lumens per Lamp: N/A
Luminaire Lumens: 7058.3 lumens
Efficiency: N/A
Efficacy: 95.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 73.6
Input Voltage (V): 120
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: P913367

CATALOG NUMBER: DFN2DIP-HX2F0-030D060US927-FLLONL

Luminous Intensity Polar Plot



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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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41
1	94	90	86	83	85	81	78	75	65	63	61	50	48	47	36	35	34
2	86	78	72	67	77	71	66	62	57	53	50	44	41	39	32	30	29
3	78	69	62	56	70	62	56	51	50	46	42	39	36	33	28	26	25
4	71	61	53	47	64	55	49	43	44	40	36	34	31	28	25	23	21
5	65	54	46	40	59	49	42	37	40	35	31	31	27	25	23	20	18
6	60	48	41	35	54	44	37	32	36	31	27	28	24	21	20	18	16
7	56	44	36	30	50	40	33	28	32	27	23	25	22	19	19	16	14
8	51	39	32	27	46	36	29	25	29	24	21	23	19	17	17	15	13
9	48	36	29	24	43	33	26	22	27	22	19	21	18	15	16	13	12
10	45	33	26	21	40	30	24	20	25	20	17	19	16	14	15	12	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2179	2179	2179
5°	2179	2143	2159
10°	2158	2109	2126
15°	2123	2069	2076
20°	2076	2016	2025
25°	2030	1953	1967
30°	1973	1894	1895
35°	1919	1826	1818
40°	1852	1756	1745
45°	1786	1686	1670
50°	1713	1613	1584
55°	1637	1528	1503
60°	1551	1428	1411
65°	1456	1324	1302
70°	1335	1197	1185
75°	1169	1044	1071
80°	968	850	864
85°	657	534	534

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1786 cd/sqm

TEST NUMBER: P913367

CATALOG NUMBER: DFN2DIP-HX2F0-030D060US927-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.0	1.2
10°-20°	244.9	3.5
20°-30°	359.9	5.1
30°-40°	418.0	5.9
40°-50°	417.5	5.9
50°-60°	364.0	5.2
60°-70°	269.1	3.8
70°-80°	152.3	2.2
80°-90°	43.0	0.6
90°-100°	52.9	0.7
100°-110°	197.2	2.8
110°-120°	523.0	7.4
120°-130°	867.4	12.3
130°-140°	921.3	13.1
140°-150°	856.3	12.1
150°-160°	688.4	9.8
160°-170°	443.6	6.3
170°-180°	152.7	2.2
0°-30°	691.8	9.8
0°-40°	1109.8	15.7
0°-60°	1891.3	26.8
0°-90°	2355.6	33.4
90°-120°	773.0	11.0
90°-150°	3418.0	48.4
90°-180°	4703.0	66.6
0°-180°	7058.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	925	921	911	918	917	88
15°	880	875	863	867	862	248
25°	797	790	774	776	774	367
35°	687	678	664	659	654	429
45°	559	553	540	530	526	432
55°	423	418	407	397	392	378
65°	286	280	271	263	259	282
75°	149	148	143	138	140	159
85°	36	36	35	32	31	41
90°	1	14	23	29	31	6
95°	75	37	45	51	50	89
105°	353	388	71	84	88	377
115°	667	687	716	179	95	657
125°	944	959	981	989	992	842
135°	1168	1186	1197	1208	1206	902
145°	1355	1353	1373	1381	1376	847
155°	1492	1481	1495	1502	1493	687
165°	1572	1565	1568	1576	1568	444
175°	1608	1599	1602	1610	1598	153
180°	1604	1604	1604	1604	1604	

TEST NUMBER: P913367

CATALOG NUMBER: DFN2DIP-HX2F0-030D060US927-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	924.7	924.7	924.7	924.7	924.7
2.5°	930.1	925.7	915.8	924.7	923.0
5°	924.7	921.2	911.4	918.5	916.8
7.5°	918.5	913.2	903.4	910.6	908.8
10°	908.8	902.5	891.9	899.0	896.4
12.5°	895.4	890.1	879.5	883.8	882.1
15°	880.3	875.0	863.4	867.0	862.5
17.5°	861.6	856.3	844.7	849.1	844.7
20°	841.1	835.8	823.4	826.0	822.5
22.5°	820.8	812.8	801.1	801.1	799.3
25°	796.7	789.6	774.5	776.3	774.5
27.5°	770.0	763.7	752.3	749.6	745.2
30°	743.4	736.3	722.9	720.3	716.7
32.5°	714.9	709.6	695.4	690.0	686.4
35°	687.4	678.5	664.2	658.9	654.4
37.5°	656.2	648.2	634.0	627.7	623.3
40°	624.2	617.1	602.8	594.9	591.4
42.5°	593.1	586.0	571.8	562.8	557.5
45°	559.4	553.1	539.7	530.0	526.4
47.5°	526.4	520.2	506.0	496.1	490.8
50°	491.7	487.3	474.8	462.4	458.0
52.5°	458.0	451.7	440.2	430.4	424.1
55°	423.3	418.0	407.3	396.6	392.2
57.5°	388.6	384.1	372.6	361.9	358.3
60°	353.9	350.4	337.9	328.1	325.5
62.5°	320.1	313.9	305.0	296.1	292.6
65°	285.5	280.1	271.2	263.2	258.8
67.5°	249.9	245.4	237.4	231.2	227.7
70°	217.0	213.4	205.4	199.2	195.7
72.5°	183.2	179.6	175.2	169.0	166.4
75°	149.3	147.7	143.1	137.8	139.7
77.5°	119.1	115.6	113.8	111.1	108.5
80°	89.0	88.0	86.2	83.6	81.8
82.5°	60.4	60.4	59.7	56.0	56.0
85°	36.4	35.6	34.7	32.0	31.1
87.5°	16.0	14.3	12.4	9.8	8.9
90°	1.1	13.9	23.1	29.1	31.3
92.5°	29.1	24.4	27.8	30.2	31.3
95°	75.4	37.1	45.2	51.2	49.9
97.5°	135.8	40.6	59.1	62.7	63.8
100°	205.5	46.4	66.1	75.4	77.7
102.5°	282.0	279.8	68.5	81.2	84.8
105°	352.8	387.7	70.8	83.5	88.2
107.5°	435.3	464.2	73.2	85.9	90.5
110°	514.3	538.5	203.2	87.1	91.7

TEST NUMBER: P913367

CATALOG NUMBER: DFN2DIP-HX2F0-030D060US927-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	588.5	609.3	589.6	89.3	92.9
115°	667.4	687.1	716.2	178.8	95.2
117.5°	735.9	759.1	778.9	612.8	308.7
120°	812.5	829.9	850.9	864.7	708.1
122.5°	877.4	896.0	919.3	926.2	927.5
125°	943.6	958.8	980.8	989.0	992.4
127.5°	1004.0	1020.3	1037.8	1049.3	1050.4
130°	1060.9	1079.5	1092.2	1105.0	1103.9
132.5°	1119.0	1134.1	1146.8	1157.2	1156.1
135°	1167.8	1186.4	1196.7	1208.4	1206.0
137.5°	1218.7	1232.6	1244.4	1255.9	1252.5
140°	1268.6	1278.0	1290.7	1301.2	1295.4
142.5°	1310.5	1318.7	1333.7	1342.9	1337.1
145°	1354.6	1353.4	1373.1	1381.2	1375.5
147.5°	1392.8	1389.3	1409.1	1414.8	1410.3
150°	1430.0	1421.9	1440.5	1447.4	1441.6
152.5°	1461.3	1452.1	1469.4	1476.5	1468.3
155°	1491.5	1481.1	1495.1	1502.0	1492.7
157.5°	1515.9	1506.6	1517.1	1525.3	1515.9
160°	1536.8	1529.8	1536.8	1543.7	1535.6
162.5°	1555.3	1548.4	1554.2	1562.3	1551.9
165°	1571.6	1564.7	1568.1	1576.3	1568.1
167.5°	1584.4	1577.4	1581.0	1589.1	1578.6
170°	1594.9	1587.8	1590.2	1598.3	1587.8
172.5°	1601.8	1594.9	1597.2	1605.4	1594.9
175°	1607.6	1599.4	1601.8	1609.9	1598.3
177.5°	1609.9	1601.8	1603.0	1611.1	1600.7
180°	1604.1	1604.1	1604.1	1604.1	1604.1

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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	8.07	8.80	9.16	9.88	11.37	7.65	8.37	8.73	9.46	10.95
	3H	9.69	10.35	10.79	11.44	12.95	9.23	9.89	10.33	10.98	12.49
	4H	10.26	10.88	11.36	11.97	13.49	9.80	10.42	10.91	11.52	13.03
	6H	10.63	11.20	11.75	12.30	13.83	10.17	10.74	11.29	11.84	13.37
	8H	10.72	11.27	11.84	12.38	13.90	10.27	10.81	11.38	11.92	13.44
	12H	10.76	11.27	11.88	12.38	13.92	10.30	10.81	11.42	11.92	13.46
4H	2H	8.50	9.12	9.62	10.22	11.73	8.16	8.78	9.28	9.88	11.40
	3H	10.33	10.85	11.45	11.97	13.49	9.95	10.46	11.07	11.59	13.11
	4H	11.02	11.49	12.14	12.60	14.15	10.62	11.10	11.75	12.21	13.76
	6H	11.50	11.91	12.63	13.04	14.58	11.11	11.51	12.24	12.65	14.19
	8H	11.64	12.02	12.77	13.14	14.70	11.24	11.62	12.37	12.75	14.30
	12H	11.69	12.03	12.84	13.17	14.73	11.29	11.63	12.43	12.77	14.33
8H	4H	11.19	11.57	12.32	12.70	14.25	10.84	11.22	11.97	12.35	13.90
	6H	11.79	12.10	12.94	13.27	14.82	11.44	11.75	12.59	12.92	14.47
	8H	11.99	12.27	13.15	13.41	14.99	11.64	11.91	12.79	13.06	14.63
	12H	12.10	12.34	13.26	13.49	15.09	11.73	11.97	12.89	13.12	14.73
12H	4H	11.17	11.51	12.32	12.65	14.21	10.83	11.17	11.97	12.31	13.87
	6H	11.81	12.09	12.97	13.24	14.81	11.47	11.75	12.63	12.90	14.47
	8H	12.03	12.27	13.19	13.42	15.02	11.68	11.93	12.85	13.07	14.68

END OF REPORT