

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: P924392

Luminaire Tested: DFN2DIP-HX3F0-050D030US950-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P924392
REPORT IS A COMBINATION OF REPORTS P899206 AND P896089
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX3F0-050D030US950-RLLFLL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

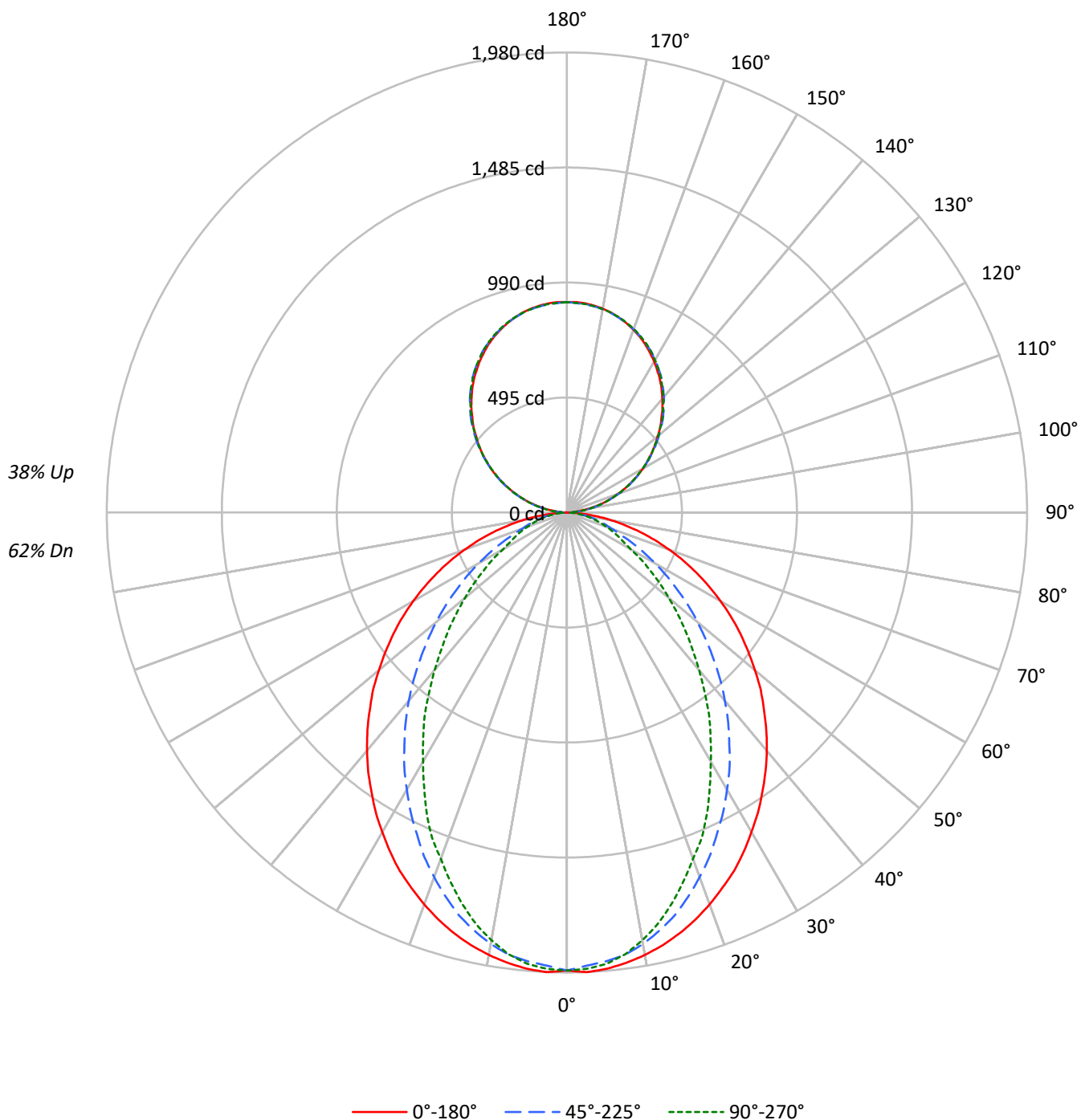
Lumens per Lamp: N/A
Luminaire Lumens: 6587.4 lumens
Efficiency: N/A
Efficacy: 97.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.84' x L: 3.28' x H: 0.1')
CIE Type: Semi-Direct

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: P924392

CATALOG NUMBER: DFN2DIP-HX3F0-050D030US950-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P924392

CATALOG NUMBER: DFN2DIP-HX3F0-050D030US950-RLLFLL

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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67
1	101	97	93	90	94	91	88	85	80	77	75	69	68	66	60	59	58
2	92	85	79	74	86	80	75	70	71	67	63	62	59	56	53	51	49
3	85	75	68	63	79	71	65	60	63	58	54	55	51	48	48	45	43
4	78	67	60	54	73	63	57	51	56	51	46	49	45	42	43	40	37
5	72	60	52	46	67	57	50	44	51	45	41	45	40	37	39	36	33
6	66	54	46	41	62	51	44	39	46	40	36	41	36	32	36	32	29
7	62	49	42	36	58	47	40	35	42	36	32	37	33	29	33	29	26
8	57	45	37	32	54	43	36	31	38	33	28	34	30	26	30	27	24
9	53	41	34	29	50	39	32	28	35	30	26	32	27	24	28	24	22
10	50	38	31	26	47	36	30	25	33	27	23	29	25	22	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2284	2284	2284
5°	2286	2246	2261
10°	2263	2200	2186
15°	2230	2126	2071
20°	2188	2024	1930
25°	2145	1910	1795
30°	2087	1794	1623
35°	2030	1669	1472
40°	1973	1540	1300
45°	1906	1396	1143
50°	1837	1252	991
55°	1764	1098	844
60°	1680	937	693
65°	1583	774	623
70°	1466	621	562
75°	1319	544	508
80°	1105	452	436
85°	756	294	321

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1906 cd/sqm

TEST NUMBER: P924392

CATALOG NUMBER: DFN2DIP-HX3F0-050D030US950-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.8	2.8
10°-20°	507.2	7.7
20°-30°	712.1	10.8
30°-40°	776.3	11.8
40°-50°	713.5	10.8
50°-60°	560.3	8.5
60°-70°	364.7	5.5
70°-80°	187.7	2.8
80°-90°	50.5	0.8
90°-100°	56.0	0.9
100°-110°	178.0	2.7
110°-120°	304.6	4.6
120°-130°	400.5	6.1
130°-140°	449.6	6.8
140°-150°	440.9	6.7
150°-160°	369.8	5.6
160°-170°	245.3	3.7
170°-180°	85.7	1.3
0°-30°	1404.1	21.3
0°-40°	2180.4	33.1
0°-60°	3454.1	52.4
0°-90°	4057.1	61.6
90°-120°	538.5	8.2
90°-150°	1829.5	27.8
90°-180°	2530.0	38.4
0°-180°	6587.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1971	1971	1971	1971	1971	
5°	1971	1963	1939	1955	1950	187
15°	1875	1855	1795	1761	1743	528
25°	1702	1645	1527	1454	1427	783
35°	1467	1376	1219	1106	1067	918
45°	1199	1079	892	765	722	926
55°	912	772	580	473	439	815
65°	616	471	310	250	244	610
75°	328	203	143	130	128	347
85°	77	39	34	34	34	88
90°	1	10	27	25	26	6
95°	40	48	49	49	48	44
105°	164	166	168	169	169	173
115°	306	310	309	308	306	302
125°	445	451	449	447	446	397
135°	575	583	585	584	582	444
145°	698	704	708	709	706	436
155°	798	800	803	807	804	367
165°	868	868	868	873	869	245
175°	904	901	900	905	900	86
180°	905	905	905	905	905	

TEST NUMBER: P924392

CATALOG NUMBER: DFN2DIP-HX3F0-050D030US950-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1971.4	1971.4	1971.4	1971.4	1971.4
2.5°	1980.3	1971.4	1951.8	1969.7	1966.1
5°	1971.4	1962.6	1939.3	1955.3	1950.1
7.5°	1955.3	1944.7	1919.7	1926.8	1917.8
10°	1933.9	1921.5	1885.9	1880.4	1869.7
12.5°	1907.2	1891.2	1842.9	1832.3	1812.6
15°	1875.1	1855.4	1794.9	1761.0	1743.1
17.5°	1837.6	1809.1	1734.1	1694.9	1666.3
20°	1794.9	1759.1	1669.9	1625.4	1586.0
22.5°	1748.5	1707.4	1603.9	1543.3	1516.6
25°	1702.0	1644.9	1527.2	1454.1	1427.2
27.5°	1646.8	1586.0	1455.8	1371.9	1330.9
30°	1587.9	1520.0	1377.3	1286.4	1238.1
32.5°	1530.8	1448.6	1302.5	1195.4	1150.7
35°	1466.6	1375.6	1218.6	1106.2	1066.9
37.5°	1404.1	1305.9	1140.1	1016.9	972.4
40°	1338.1	1231.1	1057.9	931.3	884.9
42.5°	1270.3	1156.2	975.9	843.8	799.4
45°	1199.0	1079.4	892.1	765.3	722.5
47.5°	1131.2	1004.6	811.9	685.1	645.9
50°	1056.3	929.6	733.3	610.1	572.8
52.5°	983.0	849.2	658.4	540.6	506.8
55°	911.6	772.5	579.7	472.8	438.9
57.5°	838.6	695.8	510.3	410.4	381.8
60°	763.6	620.9	437.0	346.2	317.6
62.5°	690.5	547.8	374.6	289.1	274.8
65°	615.5	471.0	310.4	249.9	244.4
67.5°	544.2	399.6	249.9	219.4	214.1
70°	469.3	330.1	206.9	189.1	181.9
72.5°	397.9	265.8	173.1	158.8	155.2
75°	328.3	203.3	142.7	130.2	128.5
77.5°	258.7	144.4	112.5	105.2	101.6
80°	194.4	103.5	85.6	78.5	78.5
82.5°	135.6	69.6	58.9	55.2	55.2
85°	76.7	39.2	33.9	33.9	33.9
87.5°	28.6	14.2	14.2	12.5	12.5
90°	0.9	9.8	26.7	25.1	25.9
92.5°	16.9	22.9	23.8	24.5	24.5
95°	39.9	47.5	48.8	48.8	47.5
97.5°	66.3	73.4	76.4	76.4	76.4
100°	96.8	103.1	105.3	105.3	104.6
102.5°	129.1	133.8	136.7	137.6	136.7
105°	164.3	166.5	168.1	169.4	169.4
107.5°	199.2	202.4	202.4	203.0	199.2
110°	233.1	237.5	237.5	237.5	235.3

TEST NUMBER: P924392

CATALOG NUMBER: DFN2DIP-HX3F0-050D030US950-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	269.6	274.3	273.4	271.2	269.6
115°	305.7	310.0	308.6	307.9	305.7
117.5°	341.3	347.4	343.5	341.3	339.1
120°	377.4	383.4	377.4	377.4	374.9
122.5°	410.1	417.8	413.9	411.7	410.1
125°	444.6	451.3	449.1	446.7	445.9
127.5°	478.0	486.5	483.6	480.2	478.0
130°	509.4	519.3	517.9	516.3	513.3
132.5°	544.6	552.3	552.8	549.0	546.8
135°	575.0	583.4	585.1	584.2	582.0
137.5°	608.7	615.6	617.0	616.5	613.1
140°	638.5	645.4	649.2	649.2	646.1
142.5°	669.1	675.9	678.1	679.0	675.9
145°	698.0	703.5	707.9	708.6	705.7
147.5°	724.0	730.8	734.0	735.4	732.4
150°	750.7	755.4	758.3	760.8	758.3
152.5°	774.5	779.0	782.9	785.9	782.9
155°	798.2	800.3	802.8	806.6	804.2
157.5°	818.6	820.2	821.7	827.1	823.3
160°	836.9	838.6	839.4	844.0	840.8
162.5°	853.8	853.8	854.7	859.8	856.0
165°	868.3	867.5	867.5	872.9	869.1
167.5°	881.4	878.9	878.9	884.4	880.5
170°	891.2	889.0	888.3	893.7	889.0
172.5°	898.0	895.9	895.0	900.5	895.9
175°	903.5	901.3	899.7	905.2	900.5
177.5°	906.5	904.3	902.7	907.3	902.7
180°	905.2	905.2	905.2	905.2	905.2

TEST NUMBER: P924392

CATALOG NUMBER: DFN2DIP-HX3F0-050D030US950-RLLFLL

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	10.99	11.92	11.85	12.80	13.90	6.97	7.90	7.82	8.78	9.87
	3H	12.67	13.50	13.54	14.39	15.51	8.16	8.99	9.03	9.88	11.00
	4H	13.28	14.06	14.16	14.95	16.09	8.61	9.40	9.50	10.29	11.43
	6H	13.70	14.42	14.59	15.32	16.47	8.93	9.66	9.83	10.56	11.70
	8H	13.82	14.51	14.73	15.43	16.58	9.02	9.71	9.93	10.63	11.78
	12H	13.88	14.54	14.80	15.45	16.62	9.07	9.73	9.98	10.63	11.81
4H	2H	11.02	11.81	11.91	12.70	13.83	7.57	8.36	8.46	9.25	10.38
	3H	12.85	13.50	13.75	14.43	15.58	8.92	9.58	9.83	10.50	11.65
	4H	13.54	14.14	14.45	15.05	16.23	9.47	10.07	10.39	10.99	12.16
	6H	14.05	14.57	14.98	15.51	16.69	9.89	10.41	10.82	11.35	12.53
	8H	14.23	14.71	15.16	15.64	16.83	10.02	10.50	10.95	11.44	12.63
	12H	14.32	14.75	15.27	15.71	16.90	10.09	10.52	11.04	11.47	12.67
8H	4H	13.51	13.99	14.44	14.93	16.12	9.76	10.24	10.69	11.17	12.36
	6H	14.08	14.47	15.03	15.45	16.64	10.27	10.67	11.23	11.64	12.83
	8H	14.29	14.64	15.25	15.61	16.81	10.46	10.81	11.42	11.78	12.98
	12H	14.43	14.73	15.39	15.69	16.95	10.58	10.89	11.55	11.85	13.10
12H	4H	13.47	13.90	14.42	14.86	16.05	9.76	10.20	10.71	11.15	12.35
	6H	14.05	14.40	15.02	15.37	16.58	10.32	10.67	11.28	11.64	12.84
	8H	14.27	14.58	15.24	15.54	16.80	10.53	10.84	11.50	11.80	13.06