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: P905921

Luminaire Tested: DFN2DIP-PN4F0-050D070US835-FLLONL

Issue Date: 11/21/2024

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Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P905921
	REPORT IS A COMBINATION OF REPORTS P901185 AND P898053
Test Lab:	INNOVATION CENTER
Issue Date:	11/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	NEO-RAY
Catalog Number:	DFN2DIP-PN4F0-050D070US835-FLLONL
Description:	4 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	11880.0 lumens
Efficiency:	N/A
Efficacy:	123.0 lumens/watt
Spacing Criteria (0/90/45):	1.2 / 1.16 / 1.29
Luminous Opening:	Rectangular w/ Sides (W: 3.74' x L: 3.94' x H: 0.1')
CIE Type:	General Diffuse

Input Watts (W):	96.6
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

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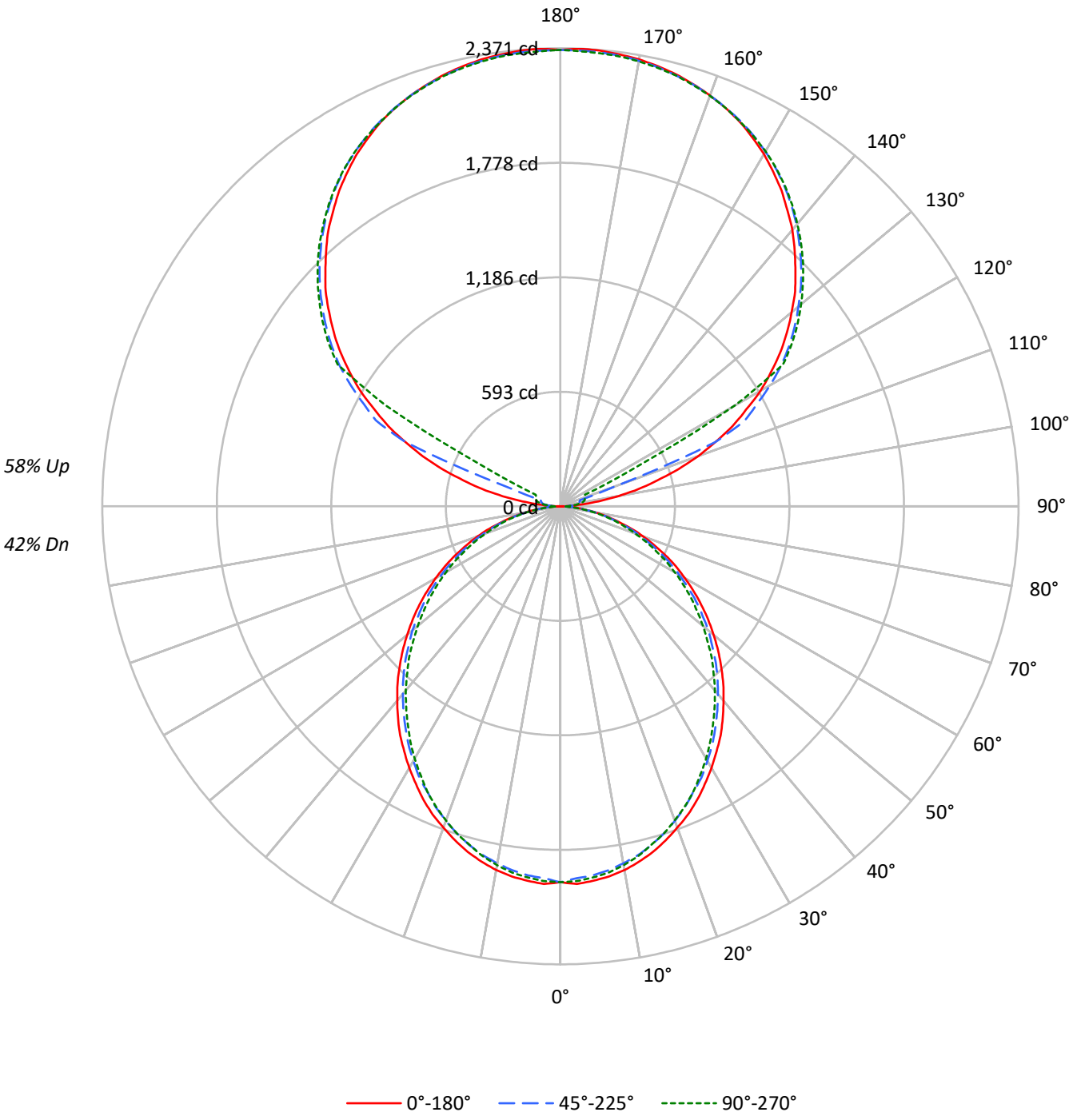
Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20			20			20			20
RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42
1	96	92	88	84	87	84	80	78	69	67	65	55	54	52	43	42	41	35
2	87	80	74	69	79	73	68	64	60	57	53	49	46	44	38	36	34	29
3	80	70	63	57	72	64	58	53	53	49	45	43	40	37	33	31	29	25
4	73	62	54	48	66	57	50	45	47	42	38	38	35	32	30	27	25	21
5	67	55	47	41	61	51	44	39	42	37	33	34	30	27	27	24	22	19
6	62	50	42	36	56	46	39	33	38	33	29	31	27	24	24	22	19	16
7	57	45	37	31	52	41	34	29	34	29	25	28	24	21	22	19	17	14
8	53	41	33	28	48	37	31	26	31	26	22	26	22	19	20	18	15	13
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1420	1420	1420
5°	1422	1401	1410
10°	1411	1382	1391
15°	1390	1359	1362
20°	1362	1328	1331
25°	1334	1290	1296
30°	1299	1255	1252
35°	1266	1214	1204
40°	1225	1172	1160
45°	1185	1131	1114
50°	1140	1087	1060
55°	1094	1036	1011
60°	1041	976	956
65°	984	913	889
70°	911	837	819
75°	809	747	754
80°	688	631	628
85°	497	430	420

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
Vertical Angle: 90°
Luminance: 1260 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.1	1.5
10°-20°	515.2	4.3
20°-30°	757.2	6.4
30°-40°	879.4	7.4
40°-50°	878.3	7.4
50°-60°	765.8	6.4
60°-70°	566.1	4.8
70°-80°	320.3	2.7
80°-90°	88.7	0.7
90°-100°	77.9	0.7
100°-110°	290.4	2.4
110°-120°	770.2	6.5
120°-130°	1277.4	10.8
130°-140°	1356.9	11.4
140°-150°	1261.1	10.6
150°-160°	1013.9	8.5
160°-170°	653.3	5.5
170°-180°	224.9	1.9
0°-30°	1455.5	12.3
0°-40°	2334.9	19.7
0°-60°	3979.0	33.5
0°-90°	4954.2	41.7
90°-120°	1138.5	9.6
90°-150°	5033.8	42.4
90°-180°	6926.0	58.3
0°-180°	11880.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1946	1946	1946	1946	1946	
5°	1946	1938	1918	1932	1929	185
15°	1852	1841	1816	1824	1815	522
25°	1676	1661	1630	1633	1630	771
35°	1446	1428	1398	1386	1377	903
45°	1177	1164	1136	1115	1108	908
55°	891	879	857	834	825	796
65°	601	589	571	554	544	594
75°	314	311	301	290	294	335
85°	77	75	73	67	66	85
90°	2	20	34	43	46	11
95°	111	55	67	75	74	131
105°	520	571	104	123	130	555
115°	983	1012	1055	263	140	968
125°	1390	1412	1444	1456	1462	1239
135°	1720	1747	1762	1780	1776	1328
145°	1995	1993	2022	2034	2026	1248
155°	2197	2181	2202	2212	2198	1012
165°	2314	2304	2309	2321	2309	654
175°	2368	2356	2359	2371	2354	225
180°	2362	2362	2362	2362	2362	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1945.5	1945.5	1945.5	*1945.5*	1945.5
2.5°	1956.8	1947.5	1926.9	*1945.5*	1942.0
5°	1945.5	1938.2	1917.5	*1932.4*	1928.9
7.5°	1932.4	1921.3	1900.7	*1915.8*	1912.0
10°	1912.0	1898.9	1876.5	*1891.3*	1885.8
12.5°	1883.8	1872.7	1850.3	*1859.6*	1855.8
15°	1852.0	1840.9	1816.5	*1824.1*	1814.7
17.5°	1812.7	1801.6	1777.2	*1786.5*	1777.2
20°	1769.7	1758.6	1732.4	*1737.9*	1730.6
22.5°	1726.8	1709.9	1685.5	*1685.5*	1681.7
25°	1676.2	1661.3	1629.5	*1633.1*	1629.5
27.5°	1620.0	1606.9	1582.7	*1577.1*	1567.8
30°	1564.0	1549.0	1521.0	*1515.4*	1507.9
32.5°	1504.1	1493.0	1463.0	*1451.7*	1444.2
35°	1446.1	1427.5	1397.5	*1386.2*	1376.9
37.5°	1380.6	1363.8	1333.8	*1320.7*	1311.4
40°	1313.4	1298.3	1268.3	*1251.6*	1244.1
42.5°	1247.9	1232.8	1203.0	*1184.1*	1173.0
45°	1176.8	1163.7	1135.5	*1115.1*	1107.5
47.5°	1107.5	1094.4	1064.5	*1043.8*	1032.7
50°	1034.5	1025.2	999.0	*972.8*	963.4
52.5°	963.4	950.3	926.1	*905.5*	892.4
55°	890.6	879.3	856.8	*834.4*	825.1
57.5°	817.5	808.2	783.8	*761.4*	753.8
60°	744.5	737.2	711.0	*690.3*	684.8
62.5°	673.5	660.4	641.7	*623.0*	615.5
65°	600.6	589.3	570.6	*553.8*	544.4
67.5°	525.8	516.3	499.6	*486.5*	478.9
70°	456.5	449.0	432.1	*419.0*	411.7
72.5°	385.5	377.9	368.6	*355.5*	349.9
75°	314.2	310.6	301.1	*290.0*	293.8
77.5°	250.7	243.1	239.4	*233.8*	228.3
80°	187.2	185.2	181.4	*175.9*	172.1
82.5°	127.2	127.2	125.4	*117.9*	117.9
85°	76.6	74.8	73.0	*67.3*	65.5
87.5°	33.7	30.0	26.2	*20.6*	18.7
90°	1.6	20.5	34.1	*42.8*	46.1
92.5°	42.8	35.9	41.0	*44.5*	46.1
95°	111.0	54.6	66.6	*75.3*	73.5
97.5°	199.9	59.9	87.1	*92.4*	94.0
100°	302.7	68.4	97.4	*111.0*	114.5
102.5°	415.3	412.1	100.9	*119.6*	124.8
105°	519.7	571.0	104.3	*123.0*	129.9
107.5°	641.0	683.7	107.8	*126.5*	133.4
110°	757.4	793.1	299.2	*128.3*	135.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	866.8	897.4	868.4	*131.5*	136.8
115°	982.9	1011.9	1054.7	*263.3*	140.3
117.5°	1083.8	1117.9	1147.1	*902.5*	454.7
120°	1196.6	1222.2	1253.1	*1273.6*	1042.8
122.5°	1292.2	1319.6	1354.0	*1364.1*	1365.9
125°	1389.7	1412.0	1444.5	*1456.5*	1461.5
127.5°	1478.6	1502.5	1528.3	*1545.4*	1547.0
130°	1562.4	1589.8	1608.5	*1627.4*	1625.8
132.5°	1647.9	1670.2	1688.9	*1704.3*	1702.7
135°	1719.7	1747.1	1762.4	*1779.6*	1776.2
137.5°	1794.8	1815.4	1832.6	*1849.7*	1844.6
140°	1868.3	1882.1	1900.8	*1916.2*	1907.7
142.5°	1930.0	1942.0	1964.1	*1977.7*	1969.2
145°	1995.0	1993.2	2022.2	*2034.2*	2025.7
147.5°	2051.2	2046.2	2075.2	*2083.7*	2077.0
150°	2106.0	2094.1	2121.5	*2131.6*	2123.1
152.5°	2152.1	2138.5	2164.1	*2174.4*	2162.5
155°	2196.6	2181.3	2201.8	*2212.0*	2198.4
157.5°	2232.5	2218.9	2234.3	*2246.3*	2232.5
160°	2263.4	2253.0	2263.4	*2273.5*	2261.5
162.5°	2290.6	2280.4	2288.9	*2300.9*	2285.5
165°	2314.5	2304.4	2309.4	*2321.4*	2309.4
167.5°	2333.4	2323.0	2328.3	*2340.3*	2324.9
170°	2348.8	2338.5	2341.9	*2353.9*	2338.5
172.5°	2359.0	2348.8	2352.3	*2364.2*	2348.8
175°	2367.5	2355.5	2359.0	*2370.9*	2353.9
177.5°	*2370.9*	*2359.0*	*2360.8*	*2372.8*	*2357.3*
180°	2362.4	2362.4	2362.4	*2362.4*	2362.4

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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	7.68	8.47	8.70	9.50	10.89	7.24	8.03	8.26	9.06	10.45
	3H	9.34	10.05	10.37	11.09	12.49	8.85	9.56	9.89	10.60	12.01
	4H	9.92	10.60	10.97	11.64	13.05	9.44	10.11	10.48	11.15	12.56
	6H	10.32	10.94	11.38	11.99	13.41	9.83	10.45	10.89	11.50	12.92
	8H	10.43	11.01	11.49	12.08	13.50	9.93	10.52	11.00	11.59	13.01
	12H	10.47	11.03	11.54	12.09	13.53	9.97	10.53	11.04	11.59	13.03
4H	2H	8.13	8.80	9.19	9.85	11.26	7.78	8.45	8.83	9.50	10.91
	3H	9.99	10.56	11.06	11.63	13.05	9.59	10.15	10.65	11.23	12.65
	4H	10.71	11.22	11.78	12.29	13.73	10.29	10.80	11.36	11.87	13.31
	6H	11.22	11.66	12.30	12.75	14.19	10.80	11.24	11.87	12.33	13.77
	8H	11.37	11.78	12.45	12.86	14.32	10.94	11.36	12.02	12.43	13.89
	12H	11.44	11.82	12.54	12.91	14.37	11.00	11.38	12.10	12.47	13.93
8H	4H	10.90	11.31	11.98	12.39	13.85	10.53	10.94	11.61	12.02	13.48
	6H	11.53	11.87	12.63	12.99	14.45	11.15	11.50	12.25	12.62	14.07
	8H	11.75	12.05	12.86	13.16	14.63	11.37	11.67	12.48	12.77	14.24
	12H	11.88	12.15	12.99	13.25	14.76	11.48	11.74	12.59	12.84	14.36
12H	4H	10.88	11.26	11.98	12.35	13.81	10.52	10.89	11.61	11.99	13.45
	6H	11.56	11.86	12.67	12.96	14.44	11.20	11.50	12.30	12.60	14.07
	8H	11.80	12.06	12.91	13.16	14.68	11.43	11.69	12.54	12.79	14.30

END OF REPORT