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: P906208

Luminaire Tested: DFN2DIP-SQ2F0-030D060US835-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method:	LM-79-2019
Report Number:	P906208
	REPORT IS A COMBINATION OF REPORTS P899807 AND P896659
Test Lab:	INNOVATION CENTER
Issue Date:	11/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	NEO-RAY
Catalog Number:	DFN2DIP-SQ2F0-030D060US835-FLLFLL
Description:	2 foot, Square Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	8280.0 lumens
Efficiency:	N/A
Efficacy:	120.2 lumens/watt
Spacing Criteria (0/90/45):	1.2 / 1.16 / 1.29
Luminous Opening:	Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type:	Semi-Indirect

Input Watts (W):	68.9
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.9963
Total Harmonic Distortion (THDi):	0.065
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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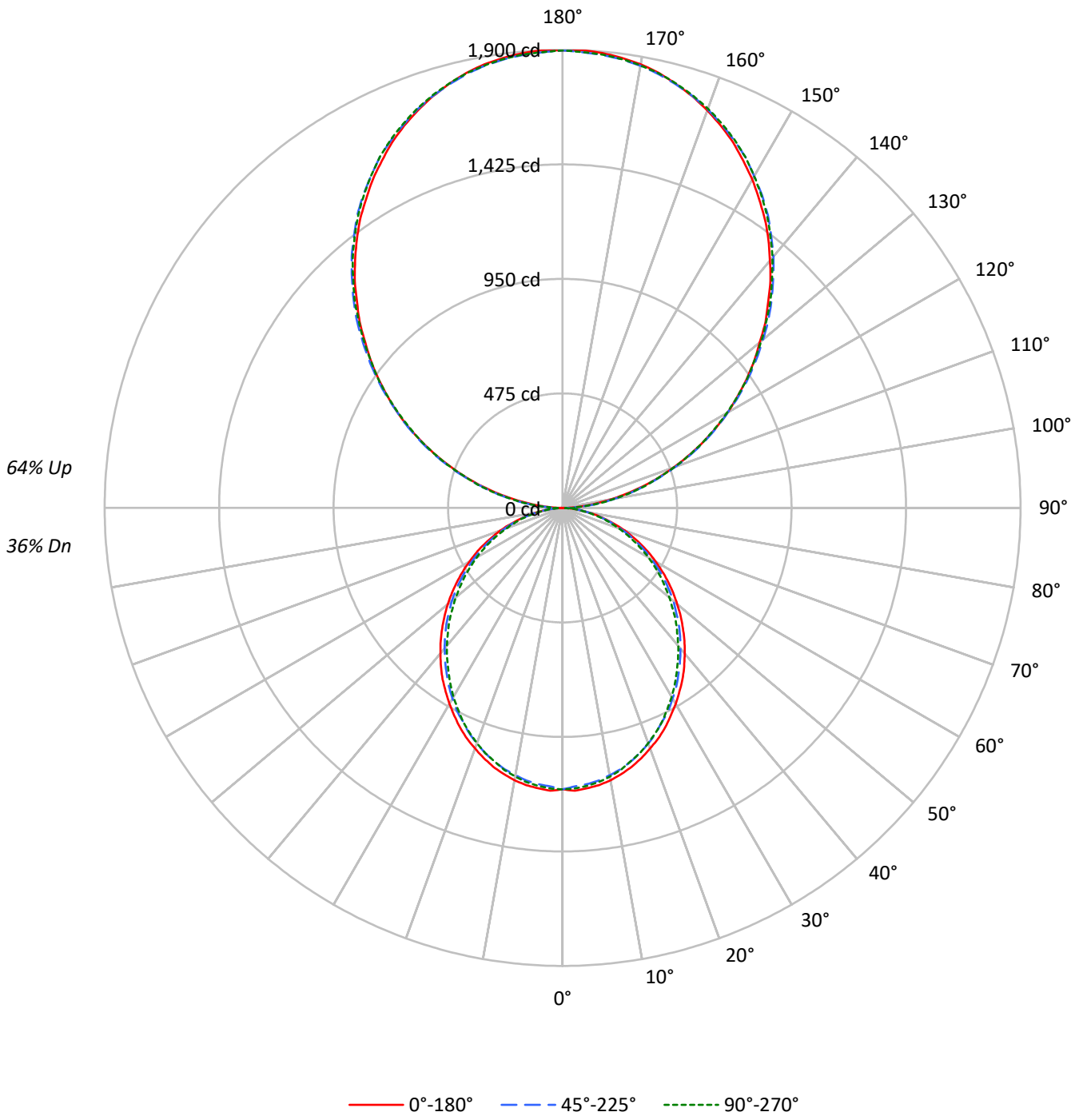
Luminous Intensity Polar Plot



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	43	43	43	36
1	95	90	87	83	85	82	79	76	66	64	62	52	50	49	38	37	36	30
2	86	79	73	68	78	72	66	62	58	54	51	45	43	41	34	32	31	25
3	79	69	62	56	71	63	57	52	51	47	43	40	37	34	30	28	26	21
4	72	61	54	48	65	56	49	44	45	40	37	36	32	29	27	24	22	18
5	66	54	47	41	59	50	43	38	40	35	31	32	28	25	24	22	20	16
6	61	49	41	35	55	45	38	33	36	31	27	29	25	22	22	19	17	14
7	56	44	36	31	50	40	33	28	33	28	24	26	22	20	20	17	15	12
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	16	14	11
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12	10
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2567	2567	2567
5°	2566	2525	2544
10°	2541	2486	2506
15°	2499	2439	2449
20°	2444	2377	2390
25°	2390	2303	2323
30°	2322	2235	2239
35°	2258	2154	2150
40°	2179	2073	2064
45°	2101	1991	1977
50°	2015	1905	1877
55°	1924	1806	1783
60°	1822	1689	1676
65°	1709	1567	1550
70°	1566	1418	1413
75°	1370	1240	1282
80°	1132	1011	1041
85°	765	639	654

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
Vertical Angle: 90°
Luminance: 2642 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.9	1.3
10°-20°	309.1	3.7
20°-30°	454.3	5.5
30°-40°	527.6	6.4
40°-50°	527.0	6.4
50°-60°	459.5	5.5
60°-70°	339.7	4.1
70°-80°	192.2	2.3
80°-90°	56.1	0.7
90°-100°	117.4	1.4
100°-110°	373.1	4.5
110°-120°	638.5	7.7
120°-130°	839.7	10.1
130°-140°	942.5	11.4
140°-150°	924.2	11.2
150°-160°	775.3	9.4
160°-170°	514.2	6.2
170°-180°	179.7	2.2
0°-30°	873.3	10.5
0°-40°	1400.9	16.9
0°-60°	2387.4	28.8
0°-90°	2975.4	35.9
90°-120°	1129.0	13.6
90°-150°	3835.4	46.3
90°-180°	5305.0	64.1
0°-180°	8280.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1167	1167	1167	1167	1167	
5°	1167	1163	1150	1160	1157	111
15°	1111	1105	1090	1094	1089	313
25°	1006	997	978	980	978	463
35°	868	856	838	832	826	542
45°	706	698	681	669	664	545
55°	534	528	514	501	495	478
65°	360	354	342	332	327	356
75°	188	186	181	174	176	201
85°	46	45	44	40	39	51
90°	2	21	56	53	54	8
95°	84	100	102	102	100	93
105°	344	349	352	355	355	363
115°	641	650	647	645	641	634
125°	932	946	942	936	935	833
135°	1205	1223	1226	1225	1220	932
145°	1463	1475	1484	1486	1479	914
155°	1673	1678	1683	1691	1686	770
165°	1820	1819	1819	1830	1822	514
175°	1894	1890	1886	1898	1888	180
180°	1898	1898	1898	1898	1898	

TEST NUMBER: P906208
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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1167.3	1167.3	1167.3	*1167.3*	1167.3
2.5°	1174.1	1168.5	1156.1	*1167.3*	1165.2
5°	1167.3	1162.9	1150.5	*1159.5*	1157.3
7.5°	1159.5	1152.8	1140.4	*1149.5*	1147.2
10°	1147.2	1139.3	1125.9	*1134.8*	1131.5
12.5°	1130.3	1123.6	1110.2	*1115.7*	1113.5
15°	1111.2	1104.6	1089.9	*1094.4*	1088.8
17.5°	1087.6	1081.0	1066.3	*1071.9*	1066.3
20°	1061.8	1055.1	1039.4	*1042.7*	1038.3
22.5°	1036.1	1026.0	1011.3	*1011.3*	1009.0
25°	1005.7	996.8	977.7	*979.9*	977.7
27.5°	972.0	964.1	949.6	*946.3*	940.7
30°	938.4	929.4	912.6	*909.2*	904.7
32.5°	902.5	895.8	877.8	*871.0*	866.5
35°	867.7	856.5	838.5	*831.7*	826.1
37.5°	828.4	818.3	800.3	*792.4*	786.8
40°	788.0	779.0	761.0	*751.0*	746.5
42.5°	748.7	739.7	721.8	*710.5*	703.8
45°	706.1	698.2	681.3	*669.0*	664.5
47.5°	664.5	656.7	638.7	*626.3*	619.6
50°	620.7	615.1	599.4	*583.7*	578.1
52.5°	578.1	570.2	555.7	*543.3*	535.4
55°	534.4	527.6	514.1	*500.7*	495.1
57.5°	490.5	484.9	470.3	*456.8*	452.3
60°	446.7	442.3	426.6	*414.2*	410.9
62.5°	404.1	396.2	385.0	*373.8*	369.3
65°	360.4	353.6	342.4	*332.3*	326.7
67.5°	315.5	309.8	299.7	*291.9*	287.4
70°	273.9	269.4	259.3	*251.4*	247.0
72.5°	231.3	226.7	221.1	*213.3*	210.0
75°	188.5	186.4	180.7	*174.0*	176.3
77.5°	150.4	145.9	143.6	*140.3*	137.0
80°	112.3	111.1	108.8	*105.5*	103.3
82.5°	76.3	76.3	75.3	*70.7*	70.7
85°	46.0	44.9	43.8	*40.4*	39.3
87.5°	20.2	18.0	15.7	*12.4*	11.2
90°	1.7	20.6	56.1	*52.6*	54.3
92.5°	35.5	48.1	49.8	*51.5*	51.5
95°	83.5	99.5	102.4	*102.4*	99.5
97.5°	139.0	153.9	160.2	*160.2*	160.2
100°	203.1	216.2	220.8	*220.8*	219.1
102.5°	270.6	280.3	286.6	*288.3*	286.6
105°	344.4	349.0	352.4	*355.3*	355.3
107.5°	417.6	424.5	424.5	*425.6*	417.6
110°	488.6	497.7	497.7	*497.7*	493.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	565.2	574.9	573.2	*568.6*	565.2
115°	640.7	649.9	647.0	*645.3*	640.7
117.5°	715.7	728.3	720.2	*715.7*	711.1
120°	791.2	803.8	791.2	*791.2*	786.0
122.5°	859.8	875.8	867.8	*863.3*	859.8
125°	931.9	946.2	941.6	*936.5*	934.8
127.5°	1002.3	1020.0	1013.7	*1006.9*	1002.3
130°	1068.1	1088.7	1085.8	*1082.4*	1076.1
132.5°	1141.9	1157.9	1159.0	*1151.0*	1146.4
135°	1205.4	1223.1	1226.5	*1224.8*	1220.2
137.5°	1276.3	1290.6	1293.5	*1292.3*	1285.5
140°	1338.7	1353.0	1361.0	*1361.0*	1354.7
142.5°	1402.7	1417.0	1421.6	*1423.3*	1417.0
145°	1463.4	1474.8	1484.0	*1485.7*	1479.4
147.5°	1517.7	1532.0	1538.9	*1541.7*	1535.4
150°	1573.8	1583.5	1589.8	*1594.9*	1589.8
152.5°	1623.5	1633.3	1641.3	*1647.6*	1641.3
155°	1673.3	1677.9	1683.0	*1691.1*	1685.9
157.5°	1716.2	1719.7	1722.5	*1734.0*	1726.0
160°	1754.6	1758.0	1759.7	*1769.4*	1762.6
162.5°	1790.0	1790.0	1791.7	*1802.6*	1794.6
165°	1820.3	1818.6	1818.6	*1830.1*	1822.1
167.5°	1847.8	1842.7	1842.7	*1854.1*	1846.1
170°	1868.4	1863.8	1862.1	*1873.5*	1863.8
172.5°	1882.7	1878.1	1876.4	*1887.8*	1878.1
175°	1894.1	1889.6	1886.1	*1897.6*	1887.8
177.5°	*1900.4*	*1895.9*	*1892.4*	*1902.1*	*1892.4*
180°	1897.6	1897.6	1897.6	*1897.6*	1897.6

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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	8.97	9.72	10.04	10.79	12.24	8.52	9.27	9.59	10.34	11.80
	3H	10.60	11.27	11.68	12.35	13.83	10.11	10.78	11.19	11.86	13.34
	4H	11.17	11.81	12.26	12.89	14.37	10.68	11.31	11.77	12.39	13.88
	6H	11.55	12.13	12.65	13.22	14.71	11.05	11.63	12.15	12.72	14.21
	8H	11.64	12.20	12.74	13.30	14.79	11.14	11.70	12.24	12.80	14.29
	12H	11.68	12.21	12.79	13.30	14.82	11.17	11.70	12.28	12.79	14.31
4H	2H	9.40	10.04	10.50	11.12	12.60	9.05	9.68	10.14	10.77	12.25
	3H	11.24	11.77	12.34	12.88	14.37	10.83	11.36	11.93	12.47	13.96
	4H	11.93	12.42	13.04	13.52	15.03	11.51	11.99	12.61	13.09	14.61
	6H	12.42	12.84	13.54	13.96	15.47	11.99	12.41	13.10	13.53	15.04
	8H	12.56	12.95	13.67	14.06	15.59	12.12	12.51	13.24	13.62	15.15
	12H	12.62	12.97	13.75	14.10	15.63	12.17	12.52	13.30	13.65	15.18
8H	4H	12.11	12.50	13.22	13.61	15.14	11.73	12.12	12.84	13.23	14.76
	6H	12.71	13.03	13.85	14.19	15.71	12.32	12.65	13.46	13.80	15.32
	8H	12.91	13.20	14.06	14.33	15.87	12.52	12.80	13.66	13.94	15.48
	12H	13.03	13.28	14.17	14.41	15.99	12.62	12.87	13.77	14.00	15.58
12H	4H	12.08	12.44	13.22	13.56	15.09	11.71	12.07	12.85	13.19	14.72
	6H	12.73	13.02	13.88	14.15	15.69	12.36	12.64	13.50	13.78	15.32
	8H	12.95	13.20	14.10	14.33	15.91	12.57	12.82	13.72	13.95	15.53

END OF REPORT