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: P911892

Luminaire Tested: DFN2DIP-SQ3F0-060D100US850-FLLFLL

Issue Date: 11/21/2024

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Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P911892
	REPORT IS A COMBINATION OF REPORTS P899973 AND P896733
Test Lab:	INNOVATION CENTER
Issue Date:	11/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	NEO-RAY
Catalog Number:	DFN2DIP-SQ3F0-060D100US850-FLLFLL
Description:	3 foot, Square Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	16402.1 lumens
Efficiency:	N/A
Efficacy:	125.3 lumens/watt
Spacing Criteria (0/90/45):	1.2 / 1.16 / 1.29
Luminous Opening:	Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type:	General Diffuse

Input Watts (W):	130.9
Input Voltage (V):	
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.9971
Total Harmonic Distortion (THDi):	0.049
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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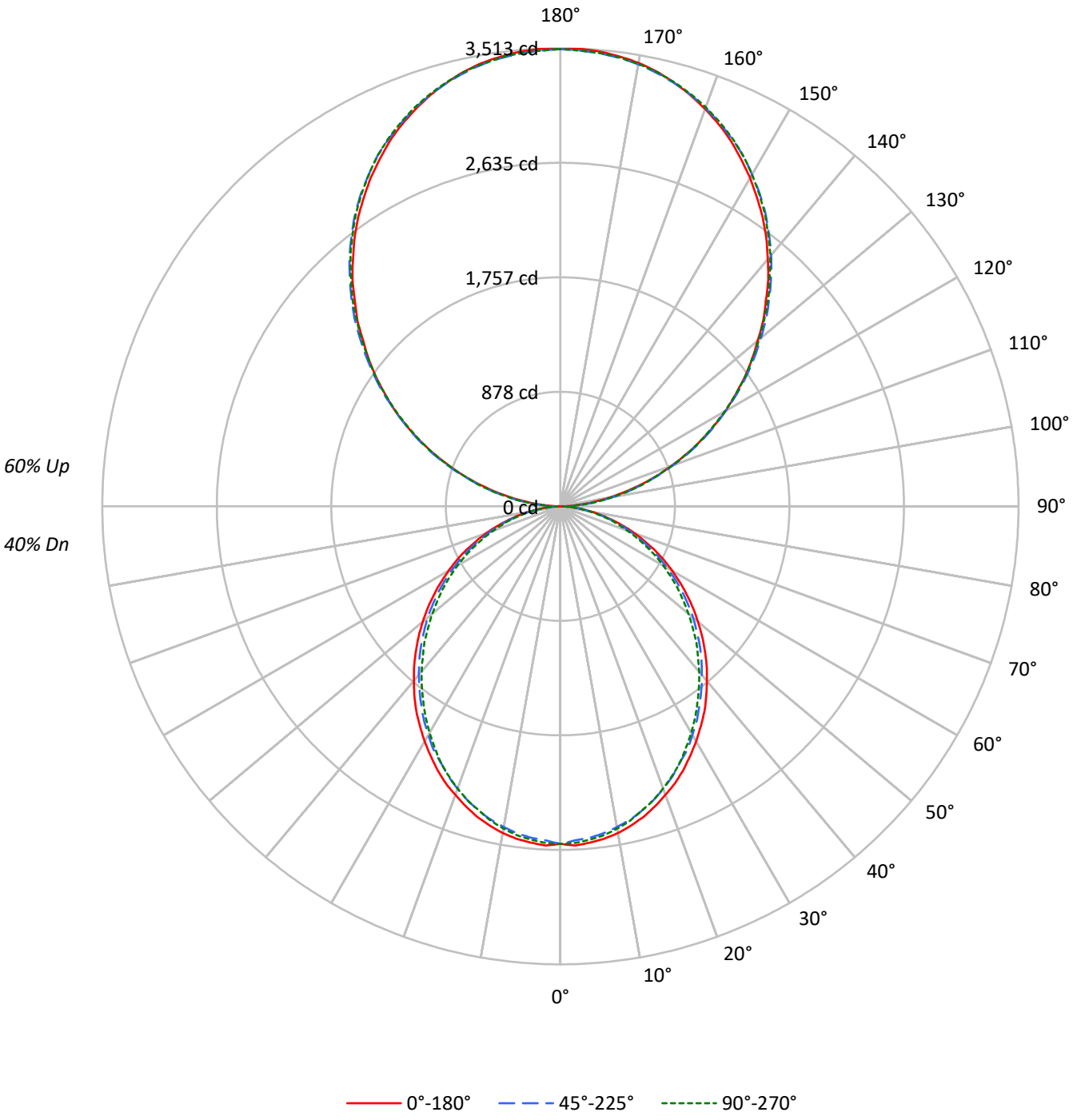
Luminous Intensity Polar Plot



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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	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	96	91	87	84	87	83	80	77	68	66	64	54	53	51	42	41	40	34
2	87	80	74	69	79	73	68	63	60	56	53	48	45	43	37	35	33	28
3	79	70	63	57	72	64	58	53	53	48	44	42	39	36	32	30	28	24
4	73	62	54	48	66	57	50	45	47	42	38	38	34	31	29	27	25	21
5	67	55	47	41	60	51	44	38	42	37	33	34	30	27	26	23	21	18
6	61	49	41	36	56	45	38	33	38	32	28	30	27	24	24	21	19	16
7	57	45	37	31	51	41	34	29	34	29	25	28	24	21	22	19	17	14
8	52	40	33	28	48	37	30	26	31	26	22	25	21	18	20	17	15	13
9	49	37	29	24	44	34	27	23	28	23	20	23	19	17	18	16	14	11
10	46	34	27	22	41	31	25	20	26	21	18	21	18	15	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2967	2967	2967
5°	2969	2923	2944
10°	2944	2882	2903
15°	2898	2833	2840
20°	2838	2765	2775
25°	2778	2684	2700
30°	2703	2609	2606
35°	2632	2520	2506
40°	2545	2431	2410
45°	2458	2341	2313
50°	2362	2246	2200
55°	2262	2137	2096
60°	2149	2008	1977
65°	2025	1874	1836
70°	1868	1710	1684
75°	1650	1513	1543
80°	1387	1262	1275
85°	976	836	835

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
Vertical Angle: 90°
Luminance: 3529 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	243.7	1.5
10°-20°	685.6	4.2
20°-30°	1007.6	6.1
30°-40°	1170.3	7.1
40°-50°	1168.8	7.1
50°-60°	1019.2	6.2
60°-70°	753.4	4.6
70°-80°	426.3	2.6
80°-90°	122.4	0.7
90°-100°	217.0	1.3
100°-110°	689.6	4.2
110°-120°	1180.1	7.2
120°-130°	1552.0	9.5
130°-140°	1742.1	10.6
140°-150°	1708.3	10.4
150°-160°	1433.0	8.7
160°-170°	950.4	5.8
170°-180°	332.2	2.0
0°-30°	1937.0	11.8
0°-40°	3107.2	18.9
0°-60°	5295.3	32.3
0°-90°	6597.4	40.2
90°-120°	2086.7	12.7
90°-150°	7089.1	43.2
90°-180°	9805.0	59.8
0°-180°	16402.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2589	2589	2589	2589	2589	
5°	2589	2579	2552	2572	2567	246
15°	2465	2450	2417	2428	2415	694
25°	2231	2211	2168	2173	2168	1026
35°	1925	1900	1860	1845	1832	1202
45°	1566	1549	1511	1484	1474	1209
55°	1185	1170	1140	1110	1098	1060
65°	799	784	759	737	724	790
75°	418	413	401	386	391	446
85°	102	100	97	90	87	114
90°	3	38	104	97	100	16
95°	154	184	189	189	184	172
105°	637	645	651	657	657	672
115°	1184	1201	1196	1193	1184	1171
125°	1722	1749	1740	1731	1728	1539
135°	2228	2261	2267	2264	2255	1722
145°	2705	2726	2743	2746	2734	1690
155°	3093	3101	3111	3126	3116	1424
165°	3365	3361	3361	3383	3368	949
175°	3501	3493	3486	3507	3489	333
180°	3507	3507	3507	3507	3507	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2589.1	2589.1	2589.1	*2589.1*	2589.1
2.5°	2604.2	2591.7	2564.2	*2589.1*	2584.3
5°	2589.1	2579.3	2551.8	*2571.7*	2566.9
7.5°	2571.7	2556.9	2529.4	*2549.5*	2544.5
10°	2544.5	2527.1	2497.1	*2517.0*	2509.6
12.5°	2507.0	2492.1	2462.3	*2474.7*	2469.7
15°	2464.6	2449.9	2417.4	*2427.5*	2415.1
17.5°	2412.4	2397.7	2365.2	*2377.5*	2365.2
20°	2355.1	2340.3	2305.4	*2312.8*	2303.1
22.5°	2298.1	2275.6	2243.1	*2243.1*	2238.1
25°	2230.6	2210.9	2168.5	*2173.3*	2168.5
27.5°	2155.9	2138.5	2106.2	*2098.9*	2086.5
30°	2081.5	2061.3	2024.1	*2016.7*	2006.6
32.5°	2001.6	1986.9	1947.0	*1931.9*	1921.9
35°	1924.6	1899.7	1859.8	*1844.7*	1832.3
37.5°	1837.4	1814.9	1775.1	*1757.5*	1745.1
40°	1747.8	1727.7	1687.9	*1665.7*	1655.6
42.5°	1660.6	1640.5	1601.0	*1575.9*	1561.0
45°	1566.1	1548.6	1511.1	*1484.0*	1473.9
47.5°	1473.9	1456.4	1416.6	*1389.1*	1374.3
50°	1376.7	1364.3	1329.5	*1294.5*	1282.1
52.5°	1282.1	1264.7	1232.4	*1205.0*	1187.6
55°	1185.2	1170.1	1140.3	*1110.4*	1098.0
57.5°	1088.0	1075.6	1043.1	*1013.3*	1003.2
60°	990.8	981.0	946.2	*918.7*	911.3
62.5°	896.2	878.8	853.9	*829.1*	819.1
65°	799.3	784.3	759.4	*736.9*	724.5
67.5°	699.7	687.0	664.8	*647.4*	637.3
70°	607.5	597.5	575.0	*557.6*	547.8
72.5°	512.9	502.9	490.5	*473.1*	465.7
75°	418.1	413.4	400.7	*385.9*	390.9
77.5°	333.6	323.6	318.5	*311.2*	303.8
80°	249.1	246.4	241.4	*234.0*	229.0
82.5°	169.3	169.3	166.9	*156.9*	156.9
85°	101.9	99.6	97.1	*89.5*	87.2
87.5°	44.9	39.9	34.8	*27.5*	24.8
90°	3.2	38.0	103.6	*97.3*	100.5
92.5°	65.5	88.8	92.0	*95.2*	95.2
95°	154.4	184.0	189.3	*189.3*	184.0
97.5°	257.0	284.5	296.1	*296.1*	296.1
100°	375.4	399.7	408.1	*408.1*	405.0
102.5°	500.2	518.1	529.8	*532.9*	529.8
105°	636.6	645.0	651.3	*656.6*	656.6
107.5°	771.9	784.6	784.6	*786.7*	771.9
110°	903.1	919.9	919.9	*919.9*	911.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1044.7	1062.6	1059.5	*1051.0*	1044.7
115°	1184.3	1201.2	1195.9	*1192.7*	1184.3
117.5°	1322.8	1346.1	1331.2	*1322.8*	1314.3
120°	1462.3	1485.6	1462.3	*1462.3*	1452.9
122.5°	1589.2	1618.8	1604.1	*1595.6*	1589.2
125°	1722.5	1748.9	1740.5	*1730.9*	1727.8
127.5°	1852.6	1885.3	1873.7	*1861.0*	1852.6
130°	1974.1	2012.2	2007.0	*2000.5*	1989.0
132.5°	2110.5	2140.1	2142.3	*2127.5*	2119.0
135°	2227.9	2260.7	2267.0	*2263.9*	2255.4
137.5°	2359.1	2385.5	2390.8	*2388.7*	2375.9
140°	2474.3	2500.7	2515.5	*2515.5*	2503.9
142.5°	2592.7	2619.1	2627.6	*2630.8*	2619.1
145°	2704.7	2725.9	2742.9	*2746.0*	2734.4
147.5°	2805.2	2831.7	2844.4	*2849.7*	2838.0
150°	2908.9	2926.9	2938.5	*2947.9*	2938.5
152.5°	3000.8	3018.8	3033.7	*3045.3*	3033.7
155°	3092.9	3101.3	3110.9	*3125.6*	3116.1
157.5°	3172.2	3178.5	3183.8	*3204.9*	3190.1
160°	3243.0	3249.4	3252.5	*3270.4*	3257.8
162.5°	3308.6	3308.6	3311.7	*3331.8*	3317.0
165°	3364.6	3361.4	3361.4	*3382.6*	3367.8
167.5°	3415.4	3405.8	3405.8	*3427.0*	3412.2
170°	3453.4	3445.0	3441.8	*3463.0*	3445.0
172.5°	3479.8	3471.4	3468.2	*3489.4*	3471.4
175°	3501.0	3492.6	3486.3	*3507.3*	3489.4
177.5°	*3512.6*	*3504.2*	*3497.8*	*3515.8*	*3497.8*
180°	3507.3	3507.3	3507.3	*3507.3*	3507.3

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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	10.04	10.82	11.07	11.86	13.26	9.59	10.37	10.63	11.42	12.82
	3H	11.69	12.39	12.73	13.44	14.86	11.20	11.90	12.24	12.95	14.37
	4H	12.27	12.93	13.33	13.98	15.41	11.77	12.44	12.83	13.49	14.92
	6H	12.66	13.27	13.73	14.33	15.77	12.16	12.77	13.23	13.83	15.27
	8H	12.76	13.34	13.83	14.41	15.85	12.26	12.84	13.33	13.91	15.35
	12H	12.80	13.36	13.88	14.42	15.88	12.29	12.85	13.37	13.91	15.38
4H	2H	10.48	11.15	11.55	12.20	13.63	10.13	10.79	11.19	11.85	13.28
	3H	12.34	12.89	13.41	13.97	15.42	11.93	12.48	13.00	13.56	15.01
	4H	13.04	13.55	14.12	14.62	16.09	12.62	13.13	13.70	14.20	15.66
	6H	13.55	13.99	14.64	15.08	16.54	13.12	13.55	14.20	14.65	16.11
	8H	13.70	14.10	14.78	15.19	16.67	13.26	13.67	14.35	14.75	16.23
	12H	13.76	14.13	14.87	15.23	16.71	13.31	13.68	14.42	14.78	16.26
8H	4H	13.23	13.64	14.32	14.72	16.20	12.85	13.26	13.94	14.35	15.82
	6H	13.85	14.19	14.96	15.32	16.79	13.47	13.80	14.58	14.93	16.41
	8H	14.07	14.36	15.18	15.47	16.97	13.68	13.97	14.79	15.08	16.57
	12H	14.19	14.45	15.31	15.56	17.09	13.78	14.04	14.90	15.15	16.68
12H	4H	13.21	13.58	14.32	14.68	16.16	12.84	13.21	13.95	14.31	15.79
	6H	13.88	14.17	15.00	15.29	16.78	13.51	13.80	14.62	14.91	16.40
	8H	14.11	14.37	15.23	15.48	17.01	13.73	13.99	14.85	15.10	16.63

END OF REPORT