

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: P903750

Luminaire Tested: DFN2DIP-SQ3F0-070D110US830-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P903750
REPORT IS A COMBINATION OF REPORTS P899994 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-070D110US830-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

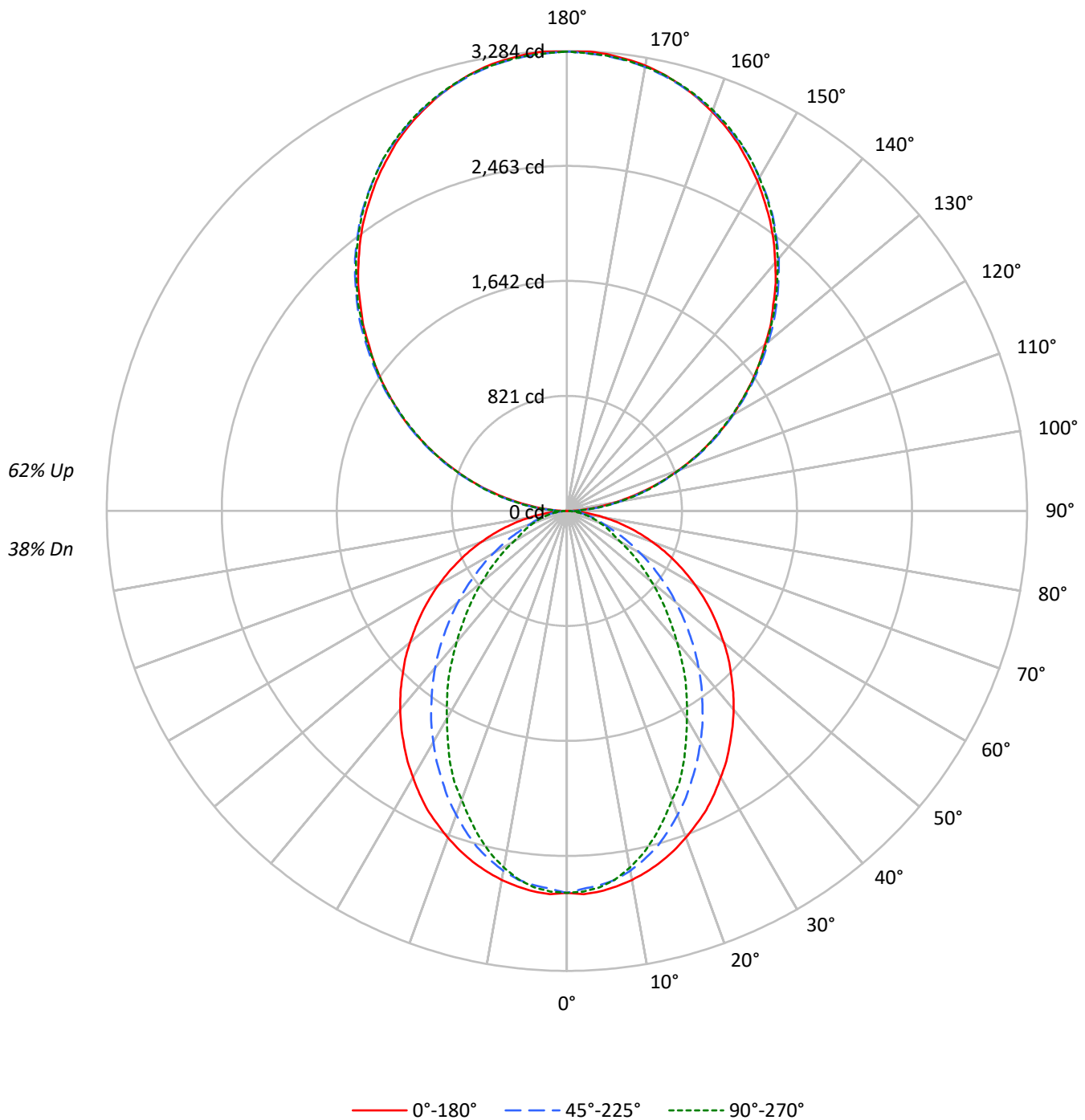
Lumens per Lamp: N/A
Luminaire Lumens: 14783.7 lumens
Efficiency: N/A
Efficacy: 97.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 151.5
Input Voltage (V):
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

TEST NUMBER: P903750

CATALOG NUMBER: DFN2DIP-SQ3F0-070D110US830-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P903750

CATALOG NUMBER: DFN2DIP-SQ3F0-070D110US830-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	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45
1	95	91	88	84	87	83	80	77	68	66	64	53	52	51	40	40	39
2	87	80	74	69	79	73	68	64	60	56	53	47	45	43	36	34	33
3	80	71	64	58	72	65	59	54	53	49	45	42	39	37	32	30	29
4	73	63	55	49	66	57	51	46	47	42	39	38	34	32	29	27	25
5	67	56	48	43	61	51	45	40	42	37	34	34	30	28	26	24	22
6	62	50	43	37	56	46	39	34	38	33	29	31	27	24	24	21	20
7	57	45	38	32	52	42	35	30	35	30	26	28	24	22	22	19	17
8	53	41	34	29	48	38	31	27	32	27	23	26	22	19	20	18	16
9	49	38	30	26	45	35	28	24	29	24	21	24	20	17	19	16	14
10	46	35	28	23	42	32	26	22	27	22	19	22	18	16	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3124	3124	3124
5°	3127	3073	3094
10°	3094	3010	2992
15°	3050	2909	2835
20°	2992	2770	2644
25°	2932	2614	2458
30°	2852	2455	2224
35°	2774	2284	2018
40°	2695	2107	1782
45°	2602	1911	1568
50°	2507	1714	1359
55°	2407	1503	1159
60°	2291	1283	953
65°	2157	1059	856
70°	1995	851	774
75°	1792	746	702
80°	1497	619	605
85°	1015	403	448

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 3298 cd/sqm

TEST NUMBER: P903750

CATALOG NUMBER: DFN2DIP-SQ3F0-070D110US830-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.6	1.7
10°-20°	701.6	4.7
20°-30°	985.0	6.7
30°-40°	1073.7	7.3
40°-50°	986.9	6.7
50°-60°	775.0	5.2
60°-70°	504.5	3.4
70°-80°	259.7	1.8
80°-90°	75.6	0.5
90°-100°	202.9	1.4
100°-110°	644.7	4.4
110°-120°	1103.3	7.5
120°-130°	1451.0	9.8
130°-140°	1628.6	11.0
140°-150°	1597.1	10.8
150°-160°	1339.7	9.1
160°-170°	888.5	6.0
170°-180°	310.5	2.1
0°-30°	1942.1	13.1
0°-40°	3015.8	20.4
0°-60°	4777.7	32.3
0°-90°	5617.4	38.0
90°-120°	1950.9	13.2
90°-150°	6627.6	44.8
90°-180°	9166.0	62.0
0°-180°	14783.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2727	2727	2727	2727	2727	
5°	2727	2714	2682	2705	2697	259
15°	2594	2566	2483	2436	2411	731
25°	2354	2275	2112	2011	1974	1083
35°	2028	1903	1686	1530	1476	1270
45°	1658	1493	1234	1059	999	1281
55°	1261	1068	802	654	607	1127
65°	851	651	429	346	338	844
75°	454	281	197	180	178	480
85°	106	54	47	47	47	122
90°	3	36	97	91	94	15
95°	144	172	177	177	172	161
105°	595	603	609	614	614	628
115°	1107	1123	1118	1115	1107	1095
125°	1610	1635	1627	1618	1615	1439
135°	2083	2114	2119	2116	2109	1610
145°	2529	2548	2564	2567	2556	1580
155°	2892	2899	2908	2922	2913	1331
165°	3146	3142	3142	3162	3148	887
175°	3273	3265	3259	3279	3262	311
180°	3279	3279	3279	3279	3279	

TEST NUMBER: P903750

CATALOG NUMBER: DFN2DIP-SQ3F0-070D110US830-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2726.9	2726.9	2726.9	2726.9	2726.9
2.5°	2739.1	2726.9	2699.6	2724.5	2719.5
5°	2726.9	2714.5	2682.4	2704.6	2697.3
7.5°	2704.6	2689.9	2655.4	2665.0	2652.8
10°	2675.0	2657.8	2608.5	2600.9	2586.2
12.5°	2638.1	2615.8	2549.1	2534.4	2507.2
15°	2593.6	2566.4	2482.6	2435.7	2411.1
17.5°	2541.8	2502.3	2398.6	2344.3	2304.8
20°	2482.6	2433.1	2309.8	2248.2	2193.8
22.5°	2418.5	2361.6	2218.4	2134.6	2097.7
25°	2354.3	2275.2	2112.3	2011.3	1974.2
27.5°	2277.8	2193.8	2013.6	1897.7	1840.9
30°	2196.4	2102.4	1905.0	1779.3	1712.6
32.5°	2117.3	2003.8	1801.6	1653.4	1591.6
35°	2028.5	1902.6	1685.6	1530.1	1475.6
37.5°	1942.2	1806.3	1577.0	1406.5	1345.0
40°	1850.8	1702.9	1463.3	1288.2	1224.0
42.5°	1757.1	1599.2	1349.9	1167.2	1105.7
45°	1658.4	1492.9	1234.0	1058.6	999.4
47.5°	1564.6	1389.5	1122.9	947.5	893.3
50°	1460.9	1285.8	1014.3	843.9	792.3
52.5°	1359.6	1174.5	910.6	747.7	700.9
55°	1260.9	1068.5	801.9	654.0	607.2
57.5°	1159.9	962.4	705.9	567.6	528.1
60°	1056.2	858.8	604.5	478.9	439.3
62.5°	955.1	757.7	518.1	399.8	380.1
65°	851.4	651.4	429.4	345.6	338.0
67.5°	752.7	552.7	345.6	303.4	296.1
70°	649.0	456.6	286.2	261.6	251.6
72.5°	550.4	367.6	239.3	219.7	214.7
75°	454.0	281.2	197.4	180.1	177.8
77.5°	357.9	199.7	155.5	145.5	140.6
80°	268.9	143.2	118.4	108.7	108.7
82.5°	187.5	96.3	81.4	76.4	76.4
85°	106.0	54.2	46.8	46.8	46.8
87.5°	39.5	19.6	19.6	17.2	17.2
90°	2.9	35.6	96.9	91.0	93.9
92.5°	61.3	83.0	86.0	89.0	89.0
95°	144.3	172.0	176.9	176.9	172.0
97.5°	240.3	265.9	276.8	276.8	276.8
100°	350.9	373.6	381.5	381.5	378.6
102.5°	467.6	484.4	495.3	498.2	495.3
105°	595.1	603.0	609.0	613.9	613.9
107.5°	721.6	733.5	733.5	735.5	721.6
110°	844.2	860.1	860.1	860.1	852.2

TEST NUMBER: P903750

CATALOG NUMBER: DFN2DIP-SQ3F0-070D110US830-RLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	976.7	993.4	990.5	982.6	976.7
115°	1107.2	1122.9	1118.0	1115.1	1107.2
117.5°	1236.7	1258.4	1244.5	1236.7	1228.8
120°	1367.2	1388.9	1367.2	1367.2	1358.3
122.5°	1485.8	1513.4	1499.6	1491.7	1485.8
125°	1610.3	1635.0	1627.1	1618.3	1615.2
127.5°	1731.9	1762.6	1751.7	1739.8	1731.9
130°	1845.6	1881.2	1876.2	1870.3	1859.4
132.5°	1973.1	2000.8	2002.8	1989.0	1981.0
135°	2082.8	2113.5	2119.4	2116.5	2108.6
137.5°	2205.5	2230.1	2235.1	2233.1	2221.3
140°	2313.2	2337.9	2351.7	2351.7	2340.9
142.5°	2423.9	2448.6	2456.5	2459.5	2448.6
145°	2528.7	2548.4	2564.3	2567.2	2556.4
147.5°	2622.6	2647.3	2659.2	2664.1	2653.3
150°	2719.5	2736.3	2747.1	2756.1	2747.1
152.5°	2805.5	2822.3	2836.1	2847.0	2836.1
155°	2891.5	2899.4	2908.3	2922.2	2913.2
157.5°	2965.6	2971.6	2976.5	2996.2	2982.4
160°	3031.9	3037.8	3040.7	3057.6	3045.7
162.5°	3093.1	3093.1	3096.2	3114.9	3101.1
165°	3145.5	3142.5	3142.5	3162.3	3148.5
167.5°	3193.0	3184.1	3184.1	3203.9	3190.0
170°	3228.6	3220.7	3217.7	3237.4	3220.7
172.5°	3253.3	3245.4	3242.4	3262.2	3245.4
175°	3273.1	3265.2	3259.2	3279.0	3262.2
177.5°	3283.9	3276.0	3270.1	3286.9	3270.1
180°	3279.0	3279.0	3279.0	3279.0	3279.0

TEST NUMBER: P903750

CATALOG NUMBER: DFN2DIP-SQ3F0-070D110US830-RLFL

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	9.83	10.58	10.89	11.63	13.07	5.79	6.54	6.85	7.59	9.03
	3H	11.50	12.16	12.57	13.23	14.68	6.97	7.63	8.04	8.70	10.15
	4H	12.10	12.73	13.18	13.80	15.26	7.41	8.04	8.49	9.11	10.57
	6H	12.51	13.09	13.60	14.17	15.64	7.72	8.30	8.81	9.37	10.84
	8H	12.64	13.19	13.73	14.27	15.74	7.81	8.36	8.90	9.44	10.91
	12H	12.69	13.21	13.79	14.30	15.79	7.84	8.37	8.94	9.45	10.94
4H	2H	9.84	10.47	10.93	11.54	13.00	6.38	7.00	7.46	8.07	9.53
	3H	11.65	12.18	12.75	13.27	14.75	7.71	8.23	8.80	9.33	10.80
	4H	12.34	12.82	13.44	13.91	15.40	8.25	8.73	9.35	9.82	11.31
	6H	12.85	13.26	13.95	14.37	15.85	8.66	9.07	9.76	10.18	11.67
	8H	13.02	13.40	14.12	14.50	16.00	8.78	9.16	9.89	10.27	11.77
	12H	13.10	13.45	14.23	14.57	16.07	8.84	9.18	9.96	10.30	11.81
8H	4H	12.30	12.68	13.41	13.78	15.29	8.52	8.90	9.63	10.01	11.51
	6H	12.86	13.17	13.98	14.32	15.82	9.03	9.34	10.16	10.49	11.99
	8H	13.07	13.35	14.20	14.47	15.99	9.21	9.49	10.35	10.61	12.13
	12H	13.20	13.44	14.34	14.57	16.12	9.32	9.57	10.46	10.69	12.24
12H	4H	12.25	12.59	13.37	13.71	15.22	8.52	8.87	9.64	9.98	11.49
	6H	12.83	13.11	13.97	14.23	15.75	9.08	9.35	10.21	10.48	12.00
	8H	13.04	13.29	14.18	14.41	15.97	9.28	9.52	10.41	10.64	12.20

END OF REPORT