

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: P906483

Luminaire Tested: DFN2DIP-SQ3F0-070D120US835-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P906483
REPORT IS A COMBINATION OF REPORTS P901532 AND P898289
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-070D120US835-RLLONL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

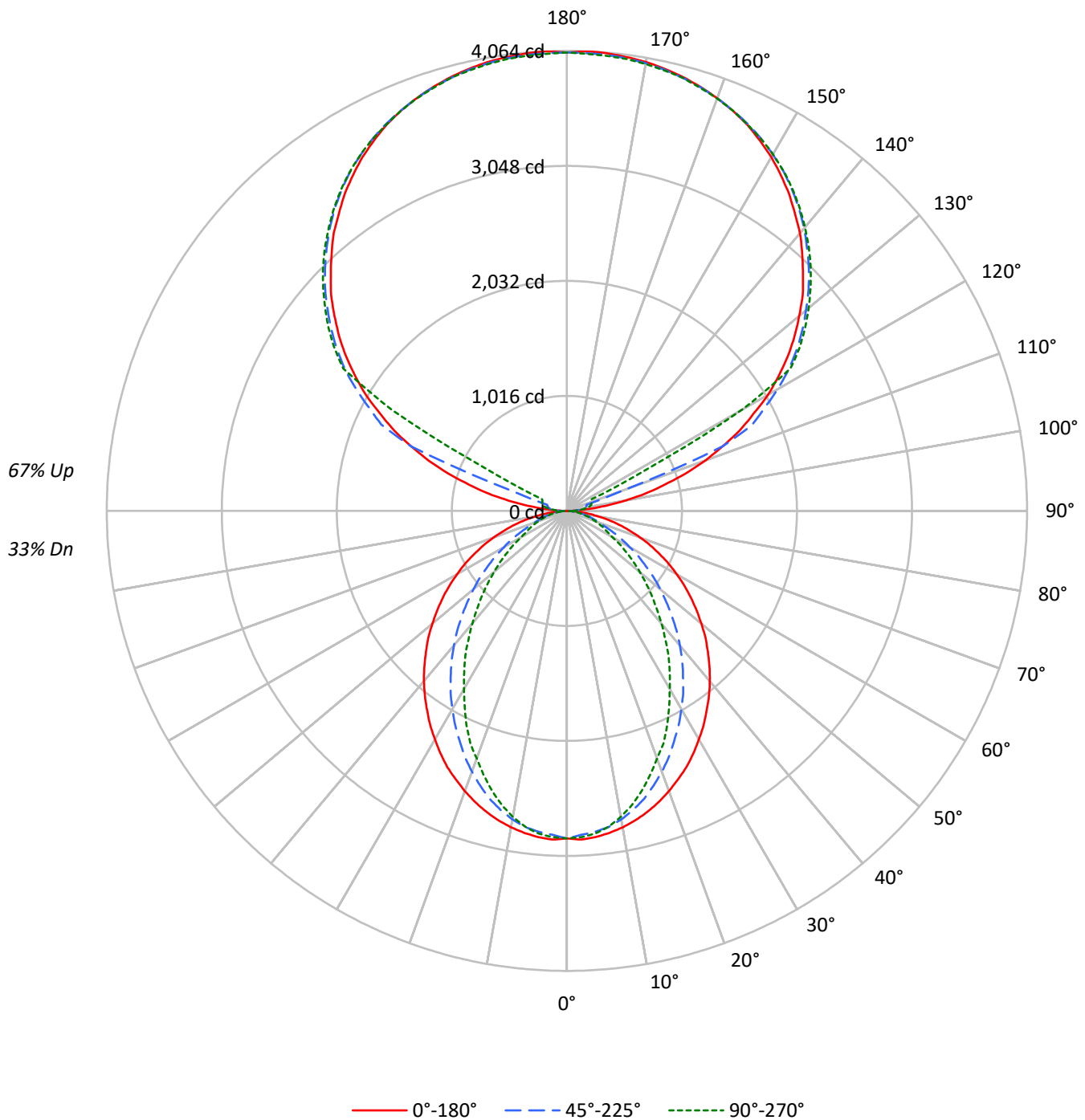
Lumens per Lamp: N/A
Luminaire Lumens: 17830.0 lumens
Efficiency: N/A
Efficacy: 111.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 159.7
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: P906483

CATALOG NUMBER: DFN2DIP-SQ3F0-070D120US835-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P906483

CATALOG NUMBER: DFN2DIP-SQ3F0-070D120US835-RLLONL

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
RCR																	
0	103	103	103	103	93	93	93	93	74	74	74		57	57	57		41
1	94	90	87	83	85	82	79	76	65	63	61		50	49	48		37
2	86	79	73	69	78	72	67	63	58	54	51		45	42	40		33
3	79	70	63	57	71	63	57	53	51	47	43		40	37	35		29
4	72	62	54	49	65	56	50	45	45	41	37		36	32	30		26
5	66	55	48	42	60	50	44	39	41	36	32		32	29	26		24
6	61	50	42	36	55	45	38	34	37	32	28		29	25	23		22
7	56	45	37	32	51	41	34	29	33	28	25		26	23	20		20
8	52	41	33	28	47	37	31	26	30	26	22		24	21	18		18
9	49	37	30	25	44	34	28	23	28	23	20		22	19	16		17
10	45	34	27	22	41	31	25	21	26	21	18		21	17	15		16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3315	3315	3315
5°	3318	3260	3282
10°	3283	3194	3174
15°	3236	3086	3008
20°	3174	2939	2805
25°	3111	2774	2608
30°	3026	2605	2360
35°	2943	2423	2141
40°	2859	2236	1891
45°	2761	2028	1664
50°	2660	1818	1442
55°	2553	1595	1230
60°	2431	1361	1011
65°	2289	1124	909
70°	2117	903	821
75°	1901	791	744
80°	1589	657	642
85°	1077	428	476

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2774 cd/sqm

TEST NUMBER: P906483

CATALOG NUMBER: DFN2DIP-SQ3F0-070D120US835-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.1	1.5
10°-20°	744.3	4.2
20°-30°	1045.0	5.9
30°-40°	1139.2	6.4
40°-50°	1047.0	5.9
50°-60°	822.3	4.6
60°-70°	535.2	3.0
70°-80°	275.5	1.5
80°-90°	77.4	0.4
90°-100°	133.5	0.7
100°-110°	497.8	2.8
110°-120°	1320.3	7.4
120°-130°	2189.8	12.3
130°-140°	2326.1	13.0
140°-150°	2161.8	12.1
150°-160°	1738.1	9.7
160°-170°	1119.9	6.3
170°-180°	385.5	2.2
0°-30°	2060.5	11.6
0°-40°	3199.7	17.9
0°-60°	5068.9	28.4
0°-90°	5957.1	33.4
90°-120°	1951.7	10.9
90°-150°	8629.4	48.4
90°-180°	11873.0	66.6
0°-180°	17830.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2893	2893	2893	2893	2893	
5°	2893	2880	2846	2870	2862	274
15°	2752	2723	2634	2584	2558	775
25°	2498	2414	2241	2134	2094	1149
35°	2152	2019	1788	1623	1566	1347
45°	1760	1584	1309	1123	1060	1359
55°	1338	1134	851	694	644	1195
65°	903	691	456	367	359	896
75°	482	298	209	191	189	509
85°	112	58	50	50	50	129
90°	3	35	58	73	79	17
95°	190	94	114	129	126	225
105°	891	979	179	211	223	952
115°	1685	1735	1808	451	240	1659
125°	2382	2421	2476	2497	2506	2125
135°	2948	2995	3021	3051	3045	2277
145°	3420	3417	3467	3487	3472	2139
155°	3766	3739	3775	3792	3769	1735
165°	3968	3950	3959	3980	3959	1121
175°	4058	4038	4044	4064	4035	386
180°	4050	4050	4050	4050	4050	

TEST NUMBER: P906483

CATALOG NUMBER: DFN2DIP-SQ3F0-070D120US835-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2893.1	2893.1	2893.1	2893.1	2893.1
2.5°	2906.1	2893.1	2864.2	2890.6	2885.3
5°	2893.1	2880.0	2845.9	2869.5	2861.7
7.5°	2869.5	2853.9	2817.3	2827.5	2814.5
10°	2838.1	2819.8	2767.5	2759.5	2743.9
12.5°	2798.9	2775.3	2704.5	2688.9	2660.0
15°	2751.7	2722.8	2633.9	2584.2	2558.1
17.5°	2696.7	2654.8	2544.8	2487.2	2445.3
20°	2633.9	2581.4	2450.6	2385.3	2327.5
22.5°	2565.9	2505.6	2353.6	2264.7	2225.6
25°	2497.8	2413.9	2241.1	2133.9	2094.5
27.5°	2416.7	2327.5	2136.4	2013.4	1953.1
30°	2330.3	2230.6	2021.1	1887.8	1817.0
32.5°	2246.4	2125.9	1911.4	1754.2	1688.6
35°	2152.2	2018.6	1788.4	1623.4	1565.6
37.5°	2060.6	1916.4	1673.1	1492.2	1427.0
40°	1963.6	1806.7	1552.5	1366.7	1298.6
42.5°	1864.2	1696.7	1432.2	1238.3	1173.1
45°	1759.5	1583.9	1309.2	1123.1	1060.3
47.5°	1660.0	1474.2	1191.4	1005.3	947.8
50°	1550.0	1364.2	1076.1	895.3	840.6
52.5°	1442.5	1246.1	966.1	793.3	743.6
55°	1337.8	1133.6	850.8	693.9	644.2
57.5°	1230.6	1021.1	748.9	602.2	560.3
60°	1120.6	911.1	641.4	508.1	466.1
62.5°	1013.3	803.9	549.7	424.2	403.3
65°	903.3	691.1	455.6	366.7	358.6
67.5°	798.6	586.4	366.7	321.9	314.2
70°	688.6	484.4	303.6	277.5	266.9
72.5°	583.9	390.0	253.9	233.1	227.8
75°	481.7	298.3	209.4	191.1	188.6
77.5°	379.7	211.9	165.0	154.4	149.2
80°	285.3	151.9	125.6	115.3	115.3
82.5°	198.9	102.2	86.4	81.1	81.1
85°	112.5	57.5	49.7	49.7	49.7
87.5°	41.9	20.8	20.8	18.3	18.3
90°	2.8	35.1	58.5	73.4	79.0
92.5°	73.4	61.6	70.3	76.2	79.0
95°	190.3	93.6	114.1	129.1	126.0
97.5°	342.8	102.7	149.3	158.3	161.1
100°	518.8	117.3	167.0	190.3	196.3
102.5°	712.0	706.4	172.9	205.0	214.0
105°	890.8	978.9	178.9	210.9	222.7
107.5°	1098.9	1172.0	184.8	216.8	228.6
110°	1298.3	1359.6	512.9	219.9	231.4

TEST NUMBER: P906483

CATALOG NUMBER: DFN2DIP-SQ3F0-070D120US835-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1485.9	1538.4	1488.7	225.5	234.5
115°	1684.9	1734.7	1808.1	451.3	240.5
117.5°	1857.9	1916.4	1966.5	1547.1	779.5
120°	2051.4	2095.2	2148.1	2183.3	1787.6
122.5°	2215.3	2262.3	2321.1	2338.5	2341.6
125°	2382.3	2420.6	2476.3	2496.8	2505.5
127.5°	2534.7	2575.8	2620.0	2649.2	2652.0
130°	2678.4	2725.4	2757.4	2789.8	2787.0
132.5°	2824.9	2863.2	2895.2	2921.7	2918.9
135°	2948.1	2995.1	3021.2	3050.8	3044.9
137.5°	3076.9	3112.0	3141.6	3170.8	3162.1
140°	3202.9	3226.5	3258.5	3285.0	3270.4
142.5°	3308.6	3329.2	3367.1	3390.4	3375.8
145°	3420.0	3416.9	3466.6	3487.2	3472.5
147.5°	3516.4	3507.7	3557.5	3572.1	3560.6
150°	3610.3	3589.8	3636.8	3654.2	3639.6
152.5°	3689.3	3666.0	3709.9	3727.6	3707.1
155°	3765.5	3739.4	3774.6	3792.0	3768.7
157.5°	3827.1	3803.8	3830.3	3850.8	3827.1
160°	3880.0	3862.3	3880.0	3897.4	3876.9
162.5°	3926.7	3909.3	3923.9	3944.4	3918.0
165°	3967.7	3950.3	3959.0	3979.6	3959.0
167.5°	4000.1	3982.3	3991.4	4011.9	3985.5
170°	4026.5	4008.8	4014.7	4035.2	4008.8
172.5°	4043.9	4026.5	4032.5	4053.0	4026.5
175°	4058.5	4038.0	4043.9	4064.5	4035.2
177.5°	4064.5	4043.9	4047.1	4067.6	4041.2
180°	4049.9	4049.9	4049.9	4049.9	4049.9

TEST NUMBER: P906483

CATALOG NUMBER: DFN2DIP-SQ3F0-070D120US835-RLONL

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	9.49	10.20	10.59	11.29	12.78	5.45	6.16	6.55	7.25	8.74
	3H	11.16	11.79	12.26	12.89	14.40	6.63	7.26	7.73	8.36	9.87
	4H	11.76	12.36	12.87	13.46	14.97	7.07	7.67	8.18	8.77	10.28
	6H	12.17	12.72	13.29	13.82	15.35	7.38	7.93	8.50	9.03	10.56
	8H	12.29	12.82	13.41	13.93	15.45	7.46	7.99	8.58	9.10	10.62
	12H	12.35	12.85	13.47	13.96	15.50	7.50	8.00	8.62	9.11	10.65
4H	2H	9.49	10.10	10.61	11.19	12.71	6.03	6.63	7.15	7.73	9.25
	3H	11.31	11.81	12.43	12.93	14.46	7.36	7.87	8.49	8.99	10.52
	4H	11.99	12.45	13.12	13.56	15.11	7.90	8.36	9.03	9.48	11.02
	6H	12.50	12.89	13.63	14.03	15.57	8.31	8.70	9.44	9.84	11.38
	8H	12.67	13.03	13.80	14.16	15.72	8.43	8.80	9.57	9.93	11.48
	12H	12.75	13.09	13.90	14.23	15.79	8.49	8.82	9.64	9.96	11.52
8H	4H	11.95	12.32	13.08	13.44	15.00	8.17	8.54	9.30	9.67	11.22
	6H	12.51	12.81	13.66	13.98	15.53	8.68	8.98	9.83	10.15	11.70
	8H	12.72	12.98	13.88	14.13	15.71	8.86	9.13	10.02	10.28	11.85
	12H	12.85	13.08	14.01	14.23	15.83	8.97	9.20	10.13	10.35	11.96
12H	4H	11.89	12.23	13.05	13.37	14.93	8.17	8.50	9.32	9.64	11.20
	6H	12.48	12.74	13.64	13.89	15.47	8.72	8.99	9.88	10.14	11.71
	8H	12.69	12.92	13.86	14.07	15.68	8.92	9.16	10.09	10.30	11.91

END OF REPORT