

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: P905811

Luminaire Tested: DFN2DIP-PN3F0-070D080US835-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905811
REPORT IS A COMBINATION OF REPORTS P901110 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-070D080US835-RLLONL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

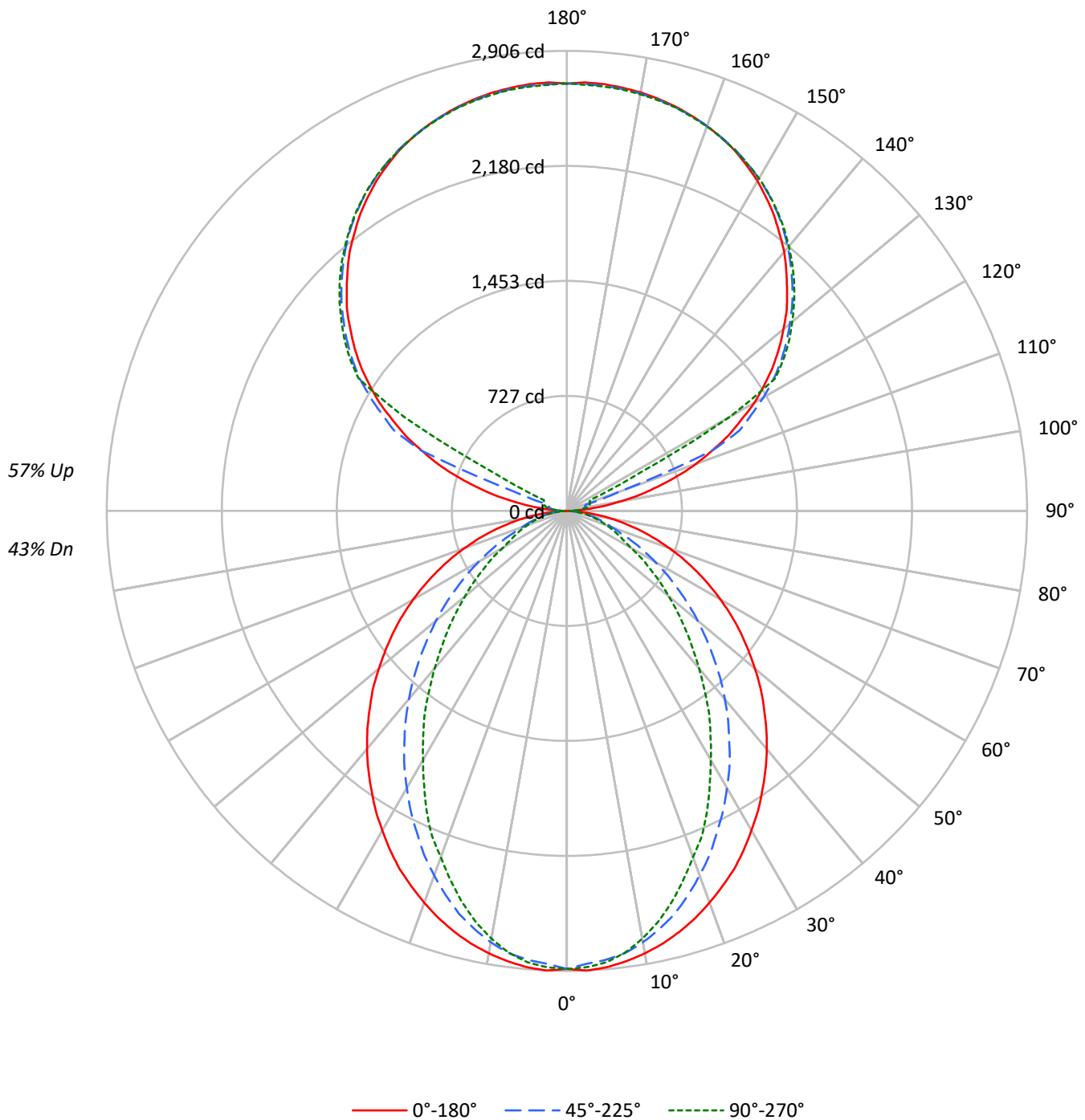
Lumens per Lamp: N/A
Luminaire Lumens: 13870.0 lumens
Efficiency: N/A
Efficacy: 106.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 130.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
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
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	105	105	105	105	96	96	96	96	79	79	79	64	64	64	50	50	50
1	97	92	89	85	88	85	82	79	70	68	66	57	55	54	44	44	43
2	88	81	75	70	81	75	70	65	62	58	55	50	48	46	40	38	37
3	81	72	65	59	74	66	60	55	55	51	47	45	42	39	36	33	32
4	74	64	56	50	68	59	52	47	49	44	40	40	37	34	32	30	28
5	68	57	49	43	62	53	46	41	44	39	35	36	33	30	29	26	24
6	63	51	43	38	57	47	40	35	40	35	31	33	29	26	26	24	22
7	58	46	39	33	53	43	36	31	36	31	27	30	26	23	24	21	19
8	54	42	35	29	49	39	32	28	33	28	24	28	24	21	22	20	17
9	50	38	31	26	46	36	29	25	30	25	22	25	22	19	21	18	16
10	47	35	28	24	43	33	27	22	28	23	20	24	20	17	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3382	3382	3382
5°	3385	3326	3348
10°	3350	3258	3238
15°	3302	3148	3068
20°	3239	2998	2860
25°	3174	2829	2660
30°	3088	2657	2406
35°	3004	2471	2183
40°	2918	2280	1927
45°	2818	2068	1696
50°	2715	1854	1470
55°	2607	1626	1252
60°	2482	1388	1029
65°	2337	1146	925
70°	2163	920	835
75°	1943	806	756
80°	1625	669	651
85°	1104	435	481

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2818 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.1	2.0
10°-20°	744.3	5.4
20°-30°	1045.0	7.5
30°-40°	1139.2	8.2
40°-50°	1047.0	7.5
50°-60°	822.3	5.9
60°-70°	535.2	3.9
70°-80°	275.5	2.0
80°-90°	75.1	0.5
90°-100°	89.0	0.6
100°-110°	331.9	2.4
110°-120°	880.2	6.3
120°-130°	1459.9	10.5
130°-140°	1550.7	11.2
140°-150°	1441.2	10.4
150°-160°	1158.7	8.4
160°-170°	746.6	5.4
170°-180°	257.0	1.9
0°-30°	2060.5	14.9
0°-40°	3199.7	23.1
0°-60°	5068.9	36.5
0°-90°	5954.7	42.9
90°-120°	1301.1	9.4
90°-150°	5752.9	41.5
90°-180°	7915.0	57.1
0°-180°	13870.0	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°	2	23	39	49	53	13
95°	127	62	76	86	84	150
105°	594	653	119	141	148	635
115°	1123	1156	1205	301	160	1106
125°	1588	1614	1651	1664	1670	1416
135°	1965	1997	2014	2034	2030	1518
145°	2280	2278	2311	2325	2315	1426
155°	2510	2493	2516	2528	2512	1157
165°	2645	2634	2639	2653	2639	747
175°	2706	2692	2696	2710	2690	258
180°	2700	2700	2700	2700	2700	

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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°	1.9	23.4	39.0	48.9	52.7
92.5°	48.9	41.1	46.9	50.8	52.7
95°	126.9	62.4	76.1	86.1	84.0
97.5°	228.5	68.4	99.5	105.6	107.4
100°	345.9	78.2	111.4	126.9	130.8
102.5°	474.7	470.9	115.3	136.6	142.7
105°	593.9	652.6	119.2	140.6	148.5
107.5°	732.6	781.3	123.2	144.5	152.4
110°	865.6	906.4	342.0	146.6	154.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	990.6	1025.6	992.5	150.3	156.4
115°	1123.3	1156.5	1205.4	300.9	160.3
117.5°	1238.6	1277.6	1311.0	1031.4	519.7
120°	1367.6	1396.8	1432.1	1455.5	1191.7
122.5°	1476.8	1508.2	1547.4	1559.0	1561.1
125°	1588.2	1613.7	1650.8	1664.5	1670.3
127.5°	1689.8	1717.2	1746.7	1766.1	1768.0
130°	1785.6	1816.9	1838.3	1859.9	1858.0
132.5°	1883.3	1908.8	1930.2	1947.8	1945.9
135°	1965.4	1996.7	2014.1	2033.9	2029.9
137.5°	2051.3	2074.7	2094.4	2113.9	2108.1
140°	2135.2	2151.0	2172.4	2190.0	2180.2
142.5°	2205.8	2219.4	2244.7	2260.3	2250.5
145°	2280.0	2277.9	2311.1	2324.8	2315.0
147.5°	2344.3	2338.5	2371.6	2381.4	2373.7
150°	2406.9	2393.2	2424.5	2436.1	2426.4
152.5°	2459.6	2444.0	2473.2	2485.1	2471.4
155°	2510.4	2493.0	2516.4	2528.0	2512.5
157.5°	2551.4	2535.9	2553.5	2567.2	2551.4
160°	2586.7	2574.9	2586.7	2598.3	2584.6
162.5°	2617.8	2606.2	2615.9	2629.6	2612.0
165°	2645.2	2633.6	2639.4	2653.0	2639.4
167.5°	2666.7	2654.9	2660.9	2674.6	2657.0
170°	2684.4	2672.5	2676.5	2690.2	2672.5
172.5°	2696.0	2684.4	2688.3	2702.0	2684.4
175°	2705.7	2692.0	2696.0	2709.6	2690.2
177.5°	2709.6	2696.0	2698.0	2711.7	2694.1
180°	2699.9	2699.9	2699.9	2699.9	2699.9

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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	10.64	11.42	11.67	12.45	13.82	6.61	7.39	7.63	8.41	9.78
	3H	12.31	13.00	13.34	14.04	15.43	7.79	8.48	8.82	9.52	10.91
	4H	12.91	13.57	13.96	14.61	16.01	8.23	8.89	9.28	9.93	11.32
	6H	13.33	13.93	14.38	14.97	16.38	8.55	9.15	9.60	10.19	11.60
	8H	13.45	14.02	14.51	15.08	16.49	8.63	9.21	9.69	10.26	11.67
	12H	13.51	14.05	14.57	15.10	16.53	8.67	9.22	9.73	10.27	11.70
4H	2H	10.65	11.31	11.70	12.35	13.75	7.20	7.85	8.25	8.89	10.29
	3H	12.47	13.02	13.53	14.08	15.49	8.53	9.08	9.59	10.14	11.56
	4H	13.16	13.66	14.22	14.71	16.15	9.07	9.57	10.14	10.63	12.06
	6H	13.66	14.09	14.74	15.17	16.60	9.48	9.91	10.56	10.99	12.42
	8H	13.83	14.23	14.91	15.31	16.75	9.61	10.01	10.68	11.08	12.52
	12H	13.92	14.28	15.01	15.37	16.82	9.67	10.03	10.76	11.12	12.56
8H	4H	13.12	13.52	14.19	14.59	16.03	9.35	9.75	10.42	10.82	12.26
	6H	13.68	14.01	14.77	15.12	16.56	9.86	10.19	10.95	11.30	12.74
	8H	13.89	14.18	14.99	15.27	16.73	10.04	10.33	11.14	11.43	12.89
	12H	14.02	14.27	15.13	15.37	16.87	10.15	10.41	11.26	11.50	13.00
12H	4H	13.07	13.43	14.16	14.52	15.96	9.35	9.71	10.44	10.80	12.24
	6H	13.65	13.94	14.75	15.04	16.50	9.90	10.19	11.01	11.29	12.75
	8H	13.86	14.12	14.97	15.21	16.71	10.11	10.36	11.21	11.45	12.95

END OF REPORT