

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: P907193

Luminaire Tested: DFN2DIP-TR3F0-070D030US835-FLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907193
REPORT IS A COMBINATION OF REPORTS P901799 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-070D030US835-FLLONL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

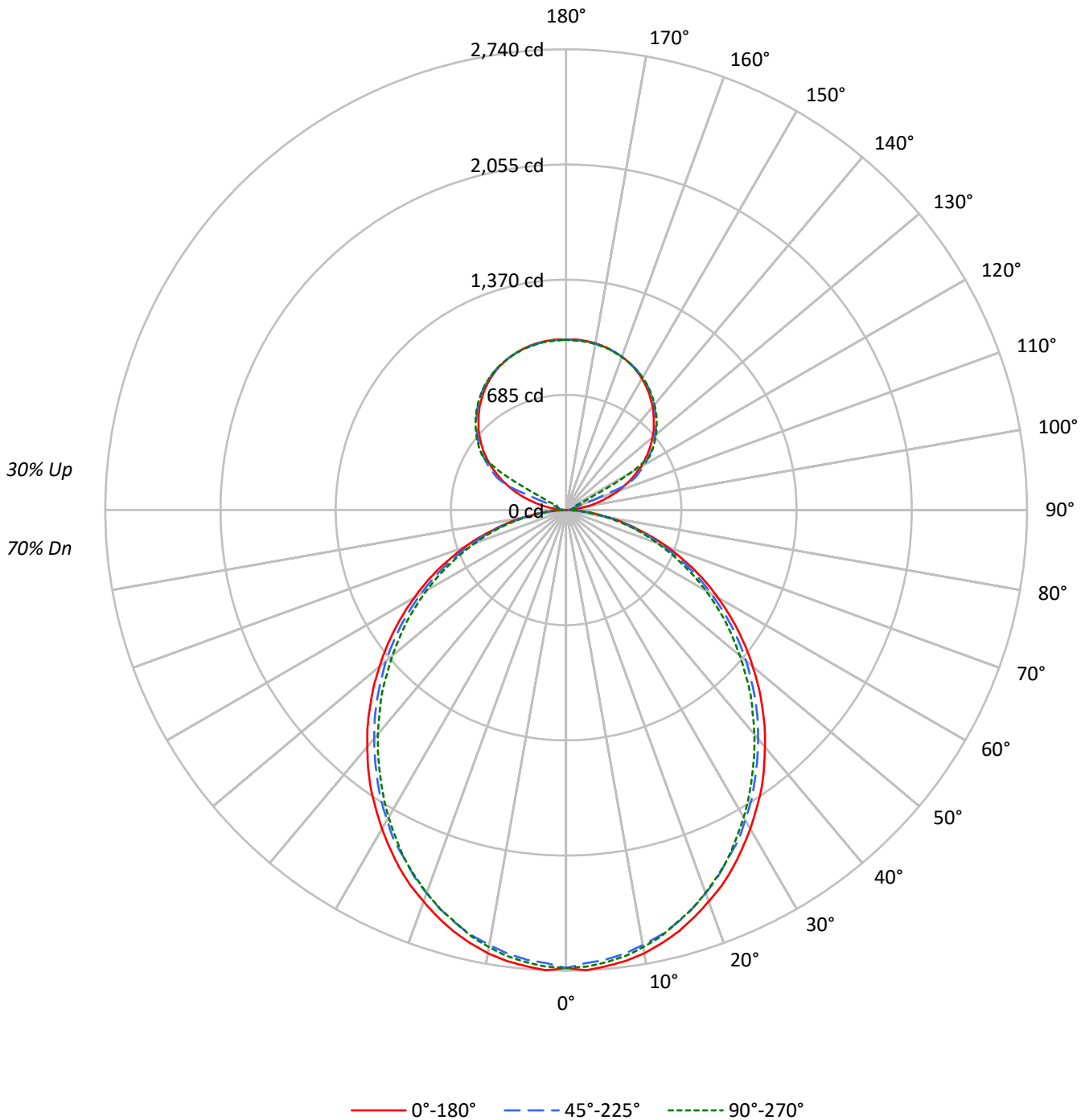
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9900.0 lumens
Efficiency: N/A
Efficacy: 106.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 92.9
Input Voltage (V):
Input Current (A_{in}): 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				
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	50	30	10	0
RCR																					
0	112	112	112	112	106	106	106	106	94	94	94	84	84	84	75	75	75	75	75	75	70
1	102	98	94	90	97	93	89	86	83	80	78	74	72	70	66	64	63	63	63	63	59
2	93	85	79	74	88	81	75	71	73	68	64	65	62	59	58	55	53	53	53	53	49
3	85	75	68	62	80	71	65	59	64	59	54	58	53	50	51	48	45	45	45	45	42
4	78	67	58	52	73	63	56	50	57	51	46	51	47	43	46	42	39	39	39	39	36
5	72	60	51	45	67	57	49	43	51	45	40	46	41	37	41	37	34	34	34	34	31
6	66	54	45	39	62	51	43	38	46	40	35	42	37	33	38	33	30	30	30	30	27
7	61	48	40	34	58	46	39	33	42	36	31	38	33	29	34	30	27	27	27	27	24
8	57	44	36	31	54	42	35	30	38	32	28	35	30	26	32	27	24	24	24	24	22
9	53	40	33	27	50	39	32	27	35	29	25	32	27	23	29	25	22	22	22	22	20
10	50	37	30	25	47	36	29	24	33	27	23	30	25	21	27	23	20	20	20	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3394	3394	3394
5°	3398	3344	3367
10°	3368	3296	3319
15°	3317	3239	3246
20°	3248	3161	3171
25°	3180	3068	3084
30°	3094	2981	2975
35°	3013	2879	2859
40°	2914	2776	2749
45°	2814	2673	2636
50°	2706	2564	2506
55°	2592	2438	2385
60°	2463	2289	2247
65°	2322	2135	2084
70°	2142	1946	1908
75°	1894	1720	1742
80°	1594	1431	1432
85°	1126	943	925

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2814 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	256.4	2.6
10°-20°	721.3	7.3
20°-30°	1060.0	10.7
30°-40°	1231.1	12.4
40°-50°	1229.6	12.4
50°-60°	1072.2	10.8
60°-70°	792.6	8.0
70°-80°	448.4	4.5
80°-90°	120.2	1.2
90°-100°	33.4	0.3
100°-110°	124.4	1.3
110°-120°	330.1	3.3
120°-130°	547.5	5.5
130°-140°	581.5	5.9
140°-150°	540.5	5.5
150°-160°	434.5	4.4
160°-170°	280.0	2.8
170°-180°	96.4	1.0
0°-30°	2037.7	20.6
0°-40°	3268.8	33.0
0°-60°	5570.6	56.3
0°-90°	6931.8	70.0
90°-120°	487.9	4.9
90°-150°	2157.3	21.8
90°-180°	2968.0	30.0
0°-180°	9900.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2724	2724	2724	2724	2724	
5°	2724	2714	2685	2705	2700	259
15°	2593	2577	2543	2554	2541	730
25°	2347	2326	2281	2286	2281	1080
35°	2025	1998	1956	1941	1928	1264
45°	1648	1629	1590	1561	1550	1271
55°	1247	1231	1200	1168	1155	1115
65°	841	825	799	775	762	831
75°	440	435	422	406	411	470
85°	107	105	102	94	92	120
90°	1	9	15	18	20	9
95°	48	23	28	32	32	56
105°	223	245	45	53	56	238
115°	421	434	452	113	60	415
125°	596	605	619	624	626	531
135°	737	749	755	763	761	569
145°	855	854	867	872	868	535
155°	941	935	944	948	942	434
165°	992	988	990	995	990	280
175°	1015	1010	1011	1016	1009	97
180°	1012	1012	1012	1012	1012	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2723.7	2723.7	2723.7	2723.7	2723.7
2.5°	2739.6	2726.5	2697.6	2723.7	2718.7
5°	2723.7	2713.5	2684.6	2705.4	2700.4
7.5°	2705.4	2689.8	2660.9	2682.1	2676.8
10°	2676.8	2658.4	2627.0	2647.9	2640.1
12.5°	2637.3	2621.8	2590.4	2603.4	2598.1
15°	2592.9	2577.3	2543.1	2553.7	2540.6
17.5°	2537.8	2522.3	2488.1	2501.2	2488.1
20°	2477.5	2462.0	2425.3	2433.1	2422.8
22.5°	2417.5	2393.9	2359.7	2359.7	2354.4
25°	2346.7	2325.8	2281.4	2286.4	2281.4
27.5°	2268.0	2249.7	2215.8	2208.0	2194.9
30°	2189.7	2168.5	2129.4	2121.6	2111.0
32.5°	2105.7	2090.2	2048.2	2032.4	2021.8
35°	2024.6	1998.5	1956.5	1940.7	1927.6
37.5°	1932.9	1909.3	1867.3	1849.0	1835.9
40°	1838.7	1817.6	1775.6	1752.3	1741.7
42.5°	1747.0	1725.9	1684.2	1657.8	1642.2
45°	1647.5	1629.2	1589.7	1561.1	1550.5
47.5°	1550.5	1532.2	1490.2	1461.3	1445.8
50°	1448.3	1435.2	1398.5	1361.9	1348.8
52.5°	1348.8	1330.5	1296.6	1267.7	1249.3
55°	1246.8	1231.0	1199.6	1168.2	1155.1
57.5°	1144.6	1131.5	1097.3	1065.9	1055.4
60°	1042.3	1032.0	995.4	966.5	958.7
62.5°	942.8	924.5	898.4	872.3	861.7
65°	840.9	825.0	798.9	775.3	762.2
67.5°	736.1	722.8	699.4	681.1	670.5
70°	639.1	628.6	604.9	586.6	576.3
72.5°	539.6	529.1	516.0	497.7	489.9
75°	439.9	434.9	421.5	406.0	411.3
77.5°	351.0	340.4	335.1	327.3	319.6
80°	262.0	259.3	254.0	246.2	240.9
82.5°	178.1	178.1	175.6	165.1	165.1
85°	107.3	104.8	102.3	94.2	91.7
87.5°	47.2	42.0	36.7	28.9	26.1
90°	0.7	8.8	14.6	18.4	19.7
92.5°	18.4	15.4	17.6	19.1	19.7
95°	47.6	23.4	28.5	32.3	31.5
97.5°	85.7	25.7	37.3	39.6	40.3
100°	129.7	29.3	41.8	47.6	49.1
102.5°	178.0	176.6	43.2	51.2	53.5
105°	222.7	244.7	44.7	52.7	55.7
107.5°	274.7	293.0	46.2	54.2	57.2
110°	324.6	339.9	128.2	55.0	57.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	371.5	384.6	372.2	56.4	58.6
115°	421.2	433.7	452.0	112.8	60.1
117.5°	464.5	479.1	491.6	386.8	194.9
120°	512.8	523.8	537.0	545.8	446.9
122.5°	553.8	565.6	580.3	584.6	585.4
125°	595.6	605.1	619.1	624.2	626.4
127.5°	633.7	643.9	655.0	662.3	663.0
130°	669.6	681.4	689.4	697.4	696.8
132.5°	706.2	715.8	723.8	730.4	729.7
135°	737.0	748.8	755.3	762.7	761.2
137.5°	769.2	778.0	785.4	792.7	790.5
140°	800.7	806.6	814.6	821.2	817.6
142.5°	827.2	832.3	841.8	847.6	844.0
145°	855.0	854.2	866.7	871.8	868.1
147.5°	879.1	876.9	889.4	893.0	890.1
150°	902.6	897.5	909.2	913.5	909.9
152.5°	922.3	916.5	927.5	931.9	926.8
155°	941.4	934.9	943.6	948.0	942.2
157.5°	956.8	951.0	957.6	962.7	956.8
160°	970.0	965.6	970.0	974.4	969.2
162.5°	981.7	977.3	981.0	986.1	979.5
165°	991.9	987.6	989.8	994.9	989.8
167.5°	1000.0	995.6	997.8	1003.0	996.4
170°	1006.6	1002.2	1003.7	1008.8	1002.2
172.5°	1011.0	1006.6	1008.1	1013.2	1006.6
175°	1014.6	1009.5	1011.0	1016.1	1008.8
177.5°	1016.1	1011.0	1011.8	1016.9	1010.3
180°	1012.5	1012.5	1012.5	1012.5	1012.5



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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	13.14	14.21	13.90	15.00	15.95	12.71	13.78	13.47	14.57	15.52
	3H	14.80	15.77	15.58	16.57	17.55	14.34	15.30	15.11	16.10	17.08
	4H	15.39	16.31	16.19	17.11	18.11	14.93	15.84	15.72	16.64	17.64
	6H	15.80	16.64	16.61	17.45	18.46	15.33	16.17	16.14	16.98	17.99
	8H	15.91	16.71	16.72	17.54	18.55	15.44	16.24	16.25	17.07	18.08
	12H	15.96	16.72	16.78	17.55	18.58	15.48	16.25	16.31	17.07	18.11
4H	2H	13.62	14.53	14.42	15.34	16.33	13.28	14.19	14.08	14.99	15.99
	3H	15.49	16.26	16.31	17.09	18.11	15.11	15.87	15.92	16.71	17.72
	4H	16.21	16.90	17.04	17.74	18.78	15.81	16.50	16.63	17.34	18.38
	6H	16.73	17.33	17.57	18.19	19.23	16.32	16.92	17.17	17.79	18.83
	8H	16.88	17.44	17.72	18.30	19.35	16.47	17.03	17.32	17.89	18.95
	12H	16.96	17.46	17.82	18.34	19.40	16.54	17.05	17.41	17.93	18.99
8H	4H	16.42	16.98	17.26	17.84	18.89	16.06	16.62	16.91	17.48	18.54
	6H	17.05	17.51	17.92	18.41	19.47	16.69	17.16	17.56	18.05	19.11
	8H	17.27	17.68	18.15	18.57	19.65	16.90	17.31	17.79	18.21	19.28
	12H	17.40	17.76	18.29	18.65	19.78	17.02	17.39	17.91	18.27	19.40
12H	4H	16.41	16.92	17.28	17.80	18.86	16.07	16.57	16.93	17.45	18.51
	6H	17.08	17.49	17.96	18.39	19.46	16.73	17.14	17.61	18.04	19.11
	8H	17.32	17.69	18.21	18.57	19.70	16.97	17.34	17.86	18.22	19.35