

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: P905795

Luminaire Tested: DFN2DIP-PN3F0-070D040US835-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905795
REPORT IS A COMBINATION OF REPORTS P901054 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-070D040US835-RLLONL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

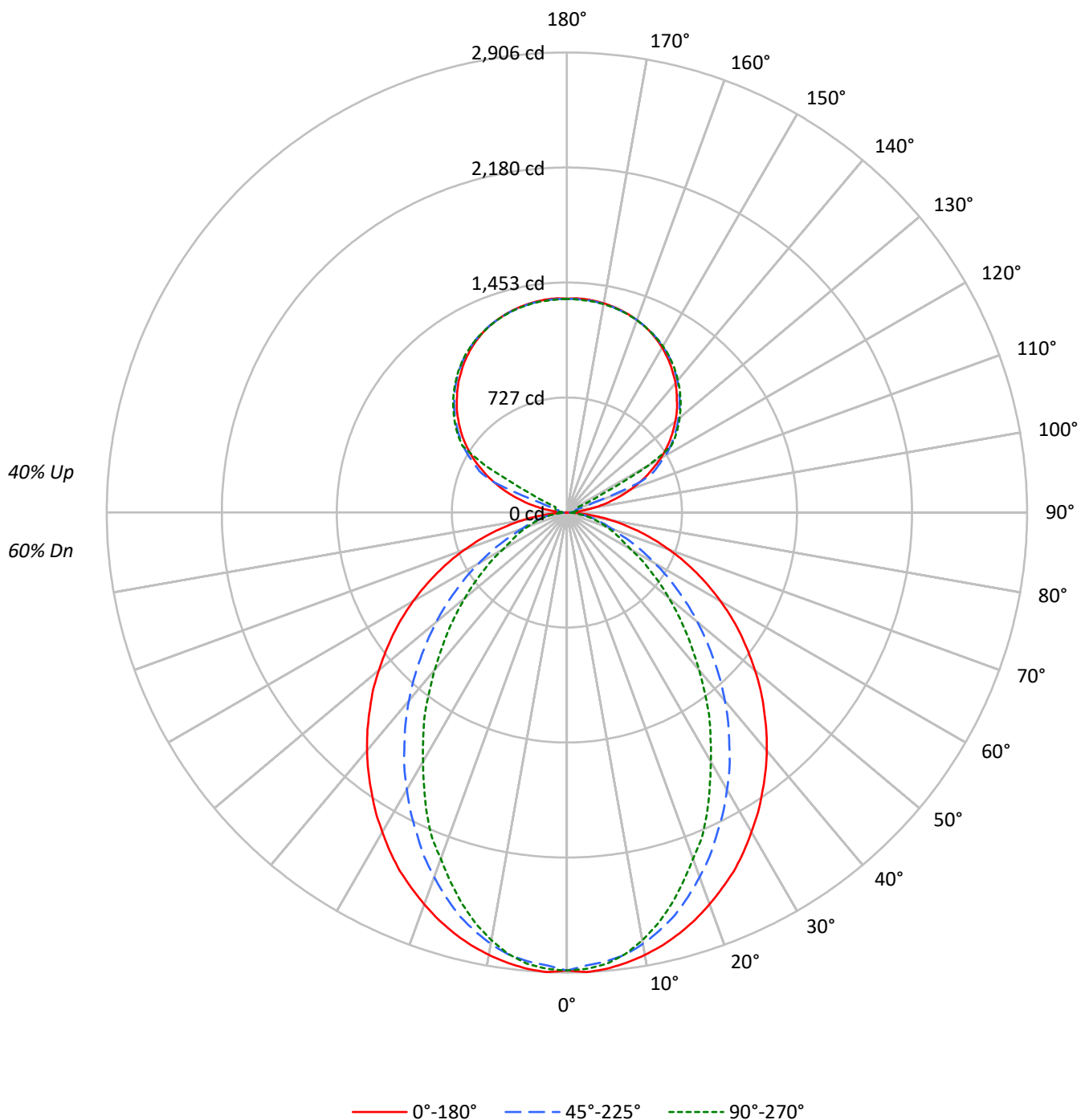
Lumens per Lamp: N/A
Luminaire Lumens: 9909.9 lumens
Efficiency: N/A
Efficacy: 99.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 99.5
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	110	110	110	110	102	102	102	102	89	89	89	77	77	77	65	65	65
1	101	96	93	89	94	90	87	84	79	77	74	68	67	65	59	57	56
2	92	85	79	74	86	80	74	70	70	66	62	61	58	55	52	50	48
3	84	75	68	62	79	71	64	59	62	57	53	54	51	47	47	44	42
4	78	67	59	53	72	63	56	51	56	50	46	49	45	41	42	39	37
5	71	60	52	46	67	57	49	44	50	44	40	44	40	36	38	35	32
6	66	54	46	40	62	51	44	39	45	40	35	40	35	32	35	32	29
7	61	49	41	36	57	46	39	34	41	36	31	37	32	29	32	29	26
8	57	45	37	32	53	42	35	31	38	32	28	34	29	26	30	26	23
9	53	41	34	29	50	39	32	28	35	29	25	31	27	23	28	24	21
10	50	38	31	26	47	36	29	25	32	27	23	29	24	21	26	22	19

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	2.7
10°-20°	744.3	7.5
20°-30°	1045.0	10.5
30°-40°	1139.2	11.5
40°-50°	1047.0	10.6
50°-60°	822.3	8.3
60°-70°	535.2	5.4
70°-80°	275.5	2.8
80°-90°	72.7	0.7
90°-100°	44.5	0.4
100°-110°	165.9	1.7
110°-120°	440.1	4.4
120°-130°	729.9	7.4
130°-140°	775.4	7.8
140°-150°	720.6	7.3
150°-160°	579.4	5.8
160°-170°	373.3	3.8
170°-180°	128.5	1.3
0°-30°	2060.5	20.8
0°-40°	3199.7	32.3
0°-60°	5068.9	51.1
0°-90°	5952.3	60.1
90°-120°	650.5	6.6
90°-150°	2876.4	29.0
90°-180°	3958.0	39.9
0°-180°	9909.9	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°	1	12	20	24	26	9
95°	63	31	38	43	42	75
105°	297	326	60	70	74	317
115°	562	578	603	150	80	553
125°	794	807	825	832	835	708
135°	983	998	1007	1017	1015	759
145°	1140	1139	1156	1162	1158	713
155°	1255	1246	1258	1264	1256	578
165°	1323	1317	1320	1326	1320	374
175°	1353	1346	1348	1355	1345	129
180°	1350	1350	1350	1350	1350	

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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°	0.9	11.7	19.5	24.5	26.3
92.5°	24.5	20.5	23.4	25.4	26.3
95°	63.4	31.2	38.0	43.0	42.0
97.5°	114.3	34.2	49.8	52.8	53.7
100°	172.9	39.1	55.7	63.4	65.4
102.5°	237.3	235.5	57.6	68.3	71.3
105°	296.9	326.3	59.6	70.3	74.2
107.5°	366.3	390.7	61.6	72.3	76.2
110°	432.8	453.2	171.0	73.3	77.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	495.3	512.8	496.2	75.2	78.2
115°	561.6	578.2	602.7	150.4	80.2
117.5°	619.3	638.8	655.5	515.7	259.8
120°	683.8	698.4	716.0	727.8	595.9
122.5°	738.4	754.1	773.7	779.5	780.5
125°	794.1	806.9	825.4	832.3	835.2
127.5°	844.9	858.6	873.3	883.1	884.0
130°	892.8	908.5	919.1	929.9	929.0
132.5°	941.6	954.4	965.1	973.9	973.0
135°	982.7	998.4	1007.1	1016.9	1015.0
137.5°	1025.6	1037.3	1047.2	1056.9	1054.0
140°	1067.6	1075.5	1086.2	1095.0	1090.1
142.5°	1102.9	1109.7	1122.4	1130.1	1125.3
145°	1140.0	1139.0	1155.5	1162.4	1157.5
147.5°	1172.1	1169.2	1185.8	1190.7	1186.9
150°	1203.4	1196.6	1212.3	1218.1	1213.2
152.5°	1229.8	1222.0	1236.6	1242.5	1235.7
155°	1255.2	1246.5	1258.2	1264.0	1256.2
157.5°	1275.7	1267.9	1276.8	1283.6	1275.7
160°	1293.3	1287.4	1293.3	1299.1	1292.3
162.5°	1308.9	1303.1	1308.0	1314.8	1306.0
165°	1322.6	1316.8	1319.7	1326.5	1319.7
167.5°	1333.4	1327.4	1330.5	1337.3	1328.5
170°	1342.2	1336.3	1338.2	1345.1	1336.3
172.5°	1348.0	1342.2	1344.2	1351.0	1342.2
175°	1352.8	1346.0	1348.0	1354.8	1345.1
177.5°	1354.8	1348.0	1349.0	1355.9	1347.1
180°	1350.0	1350.0	1350.0	1350.0	1350.0

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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	12.23	13.15	13.11	14.04	15.16	8.20	9.12	9.07	10.01	11.13
	3H	13.91	14.73	14.80	15.63	16.78	9.39	10.21	10.27	11.11	12.26
	4H	14.52	15.30	15.42	16.20	17.36	9.84	10.61	10.74	11.52	12.68
	6H	14.94	15.66	15.85	16.57	17.74	10.16	10.87	11.07	11.78	12.96
	8H	15.07	15.75	15.99	16.67	17.85	10.25	10.93	11.17	11.86	13.03
	12H	15.13	15.78	16.05	16.70	17.89	10.29	10.94	11.22	11.86	13.06
4H	2H	12.26	13.04	13.17	13.94	15.10	8.80	9.58	9.71	10.48	11.64
	3H	14.09	14.74	15.01	15.67	16.84	10.15	10.80	11.07	11.73	12.91
	4H	14.78	15.37	15.71	16.30	17.50	10.70	11.29	11.63	12.22	13.42
	6H	15.30	15.80	16.24	16.76	17.96	11.12	11.62	12.06	12.58	13.78
	8H	15.47	15.94	16.41	16.89	18.10	11.24	11.72	12.19	12.66	13.88
	12H	15.56	15.99	16.53	16.96	18.17	11.31	11.73	12.27	12.70	13.92
8H	4H	14.75	15.23	15.70	16.17	17.39	10.98	11.45	11.93	12.40	13.62
	6H	15.32	15.71	16.29	16.70	17.91	11.50	11.89	12.47	12.88	14.09
	8H	15.53	15.87	16.51	16.85	18.08	11.68	12.03	12.66	13.01	14.24
	12H	15.67	15.97	16.65	16.94	18.22	11.80	12.10	12.78	13.08	14.36
12H	4H	14.71	15.13	15.67	16.10	17.32	10.99	11.42	11.95	12.38	13.60
	6H	15.29	15.64	16.27	16.62	17.85	11.54	11.89	12.52	12.87	14.10
	8H	15.51	15.82	16.49	16.79	18.07	11.75	12.06	12.73	13.03	14.31