

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: P924890

Luminaire Tested: DFN2DIP-PN3F0-070D040US950-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P924890
REPORT IS A COMBINATION OF REPORTS P899534 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-070D040US950-RLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

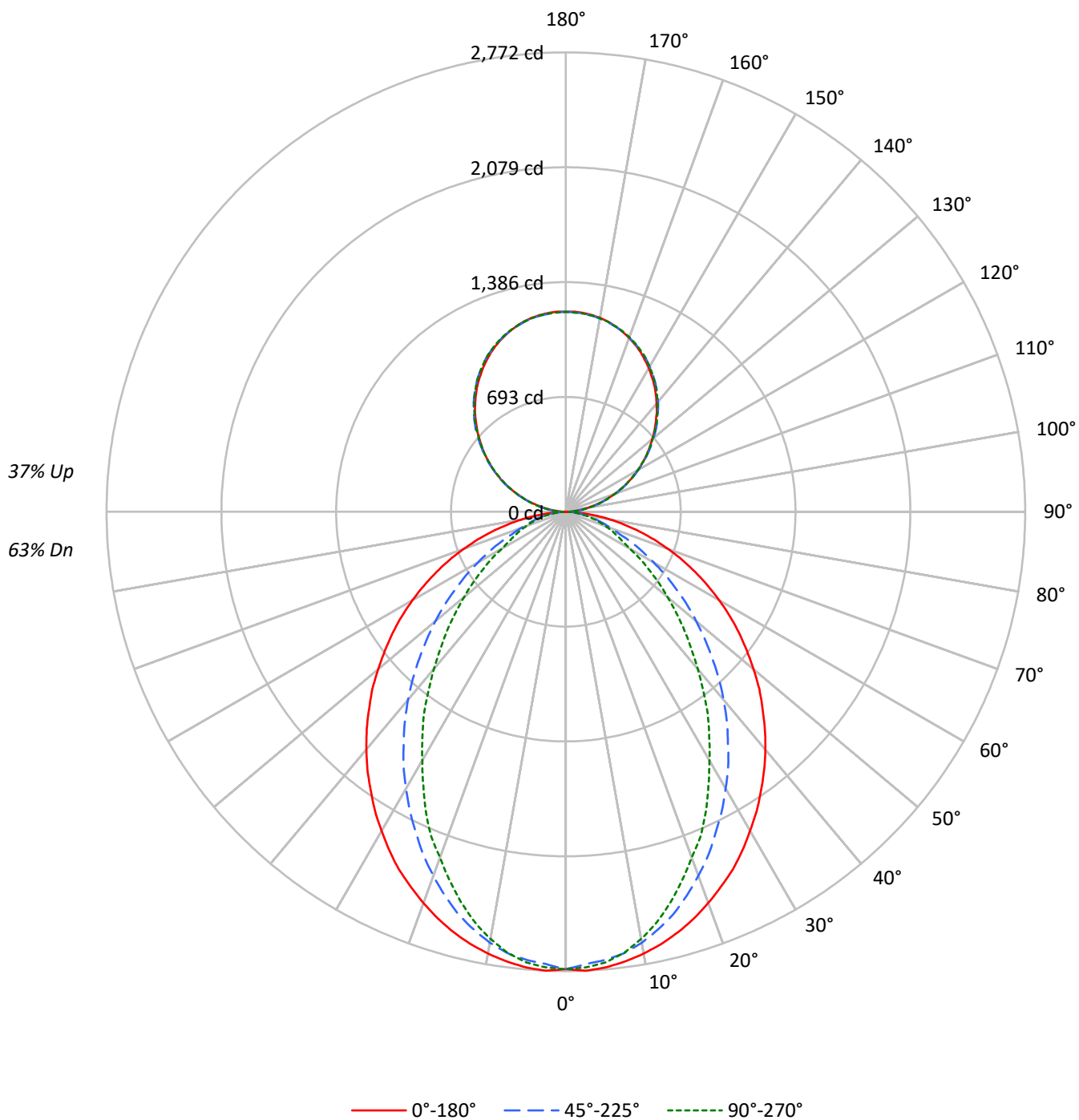
Lumens per Lamp: N/A
Luminaire Lumens: 9053.4 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Direct

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	103	103	103	103	90	90	90	79	79	79	68	68	68
1	101	97	93	90	95	91	88	85	80	78	76	70	68	67	61	60	58
2	93	85	80	75	87	80	75	71	71	67	64	62	59	57	54	52	50
3	85	76	69	63	79	71	65	60	63	58	54	56	52	49	49	46	43
4	78	67	60	54	73	64	57	51	57	51	47	50	46	42	44	41	38
5	72	61	53	47	67	57	50	45	51	45	41	45	41	37	40	36	33
6	67	55	47	41	62	52	44	39	46	40	36	41	36	33	36	33	30
7	62	50	42	36	58	47	40	35	42	36	32	38	33	29	33	30	27
8	57	45	38	32	54	43	36	31	39	33	29	35	30	26	31	27	24
9	54	42	34	29	50	40	33	28	36	30	26	32	27	24	29	25	22
10	50	38	31	26	47	36	30	25	33	27	24	30	25	22	27	23	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3226	3226	3226
5°	3230	3173	3194
10°	3196	3108	3089
15°	3150	3003	2927
20°	3090	2860	2729
25°	3028	2699	2537
30°	2946	2534	2295
35°	2866	2358	2082
40°	2784	2175	1838
45°	2689	1973	1618
50°	2590	1769	1402
55°	2487	1551	1195
60°	2368	1324	982
65°	2230	1093	882
70°	2063	877	796
75°	1853	769	722
80°	1550	638	621
85°	1053	415	459

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2689 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	258.7	2.9
10°-20°	710.1	7.8
20°-30°	997.0	11.0
30°-40°	1086.8	12.0
40°-50°	998.8	11.0
50°-60°	784.4	8.7
60°-70°	510.6	5.6
70°-80°	262.8	2.9
80°-90°	70.5	0.8
90°-100°	74.7	0.8
100°-110°	237.3	2.6
110°-120°	406.1	4.5
120°-130°	534.0	5.9
130°-140°	599.4	6.6
140°-150°	587.8	6.5
150°-160°	493.1	5.4
160°-170°	327.0	3.6
170°-180°	114.3	1.3
0°-30°	1965.7	21.7
0°-40°	3052.5	33.7
0°-60°	4835.8	53.4
0°-90°	5679.7	62.7
90°-120°	718.0	7.9
90°-150°	2439.3	26.9
90°-180°	3374.0	37.3
0°-180°	9053.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2760	2760	2760	2760	2760	
5°	2760	2748	2715	2738	2730	262
15°	2625	2598	2513	2465	2440	740
25°	2383	2303	2138	2036	1998	1096
35°	2053	1926	1706	1549	1494	1285
45°	1679	1511	1249	1071	1012	1296
55°	1276	1082	812	662	615	1140
65°	862	659	435	350	342	854
75°	460	285	200	182	180	486
85°	107	55	47	47	47	123
90°	1	13	36	34	34	9
95°	53	63	65	65	63	59
105°	219	222	224	226	226	231
115°	408	413	412	410	408	403
125°	593	602	599	596	594	530
135°	767	778	780	779	776	593
145°	931	938	944	945	941	582
155°	1064	1067	1070	1076	1072	490
165°	1158	1157	1157	1164	1159	327
175°	1205	1202	1200	1207	1201	114
180°	1207	1207	1207	1207	1207	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2760.0	2760.0	2760.0	2760.0	2760.0
2.5°	2772.4	2760.0	2732.4	2757.6	2752.6
5°	2760.0	2747.5	2715.0	2737.5	2730.1
7.5°	2737.5	2722.6	2687.7	2697.4	2685.0
10°	2707.5	2690.1	2640.2	2632.6	2617.7
12.5°	2670.2	2647.6	2580.1	2565.2	2537.6
15°	2625.1	2597.6	2512.7	2465.3	2440.4
17.5°	2572.7	2532.7	2427.7	2372.8	2332.8
20°	2512.7	2462.7	2337.9	2275.6	2220.4
22.5°	2447.9	2390.3	2245.3	2160.5	2123.2
25°	2382.9	2302.9	2138.0	2035.7	1998.2
27.5°	2305.5	2220.4	2038.1	1920.8	1863.3
30°	2223.1	2128.0	1928.1	1801.0	1733.4
32.5°	2143.1	2028.1	1823.5	1673.5	1610.9
35°	2053.2	1925.7	1706.1	1548.7	1493.6
37.5°	1965.8	1828.2	1596.1	1423.6	1361.4
40°	1873.3	1723.6	1481.1	1303.8	1238.9
42.5°	1778.4	1618.7	1366.3	1181.3	1119.1
45°	1678.6	1511.0	1249.0	1071.4	1011.5
47.5°	1583.6	1406.4	1136.6	959.1	904.2
50°	1478.7	1301.4	1026.6	854.1	801.9
52.5°	1376.1	1188.8	921.7	756.8	709.4
55°	1276.3	1081.5	811.7	662.0	614.6
57.5°	1174.0	974.1	714.5	574.5	534.5
60°	1069.1	869.2	611.9	484.7	444.7
62.5°	966.7	766.9	524.4	404.7	384.7
65°	861.7	659.3	434.6	349.8	342.1
67.5°	761.9	559.4	349.8	307.1	299.7
70°	656.9	462.1	289.6	264.7	254.6
72.5°	557.0	372.1	242.2	222.4	217.3
75°	459.5	284.6	199.8	182.3	179.9
77.5°	362.2	202.2	157.4	147.3	142.3
80°	272.2	144.9	119.8	110.0	110.0
82.5°	189.8	97.5	82.4	77.4	77.4
85°	107.3	54.9	47.4	47.4	47.4
87.5°	40.0	19.8	19.8	17.5	17.5
90°	1.0	13.1	35.7	33.5	34.5
92.5°	22.5	30.5	31.7	32.7	32.7
95°	53.1	63.3	65.2	65.2	63.3
97.5°	88.4	97.9	101.9	101.9	101.9
100°	129.2	137.6	140.4	140.4	139.4
102.5°	172.1	178.3	182.3	183.4	182.3
105°	219.0	221.9	224.1	225.9	225.9
107.5°	265.6	270.0	270.0	270.6	265.6
110°	310.7	316.5	316.5	316.5	313.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	359.5	365.7	364.5	361.7	359.5
115°	407.5	413.4	411.5	410.4	407.5
117.5°	455.2	463.2	458.1	455.2	452.3
120°	503.2	511.2	503.2	503.2	499.9
122.5°	546.8	557.0	552.0	549.0	546.8
125°	592.7	601.8	598.9	595.6	594.5
127.5°	637.5	648.7	644.7	640.3	637.5
130°	679.2	692.4	690.6	688.4	684.4
132.5°	726.2	736.4	737.2	732.0	729.1
135°	766.6	777.9	780.1	778.9	776.1
137.5°	811.8	820.8	822.6	821.9	817.6
140°	851.3	860.5	865.6	865.6	861.6
142.5°	892.2	901.2	904.1	905.3	901.2
145°	930.7	938.0	943.8	944.9	940.9
147.5°	965.3	974.3	978.7	980.5	976.5
150°	1000.9	1007.1	1011.1	1014.4	1011.1
152.5°	1032.6	1038.7	1043.9	1047.9	1043.9
155°	1064.2	1067.1	1070.4	1075.5	1072.2
157.5°	1091.6	1093.7	1095.5	1102.8	1097.7
160°	1115.9	1118.1	1119.1	1125.3	1121.0
162.5°	1138.4	1138.4	1139.6	1146.4	1141.4
165°	1157.8	1156.6	1156.6	1163.9	1158.8
167.5°	1175.2	1171.9	1171.9	1179.2	1174.1
170°	1188.3	1185.3	1184.3	1191.5	1185.3
172.5°	1197.4	1194.5	1193.4	1200.7	1194.5
175°	1204.7	1201.8	1199.6	1206.8	1200.7
177.5°	1208.7	1205.8	1203.6	1209.8	1203.6
180°	1206.8	1206.8	1206.8	1206.8	1206.8

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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	12.29	13.24	13.14	14.10	15.18	8.26	9.20	9.10	10.07	11.15
	3H	13.97	14.82	14.83	15.69	16.80	9.45	10.29	10.31	11.17	12.27
	4H	14.58	15.38	15.46	16.26	17.38	9.90	10.70	10.77	11.58	12.69
	6H	15.00	15.74	15.89	16.62	17.75	10.22	10.96	11.11	11.84	12.97
	8H	15.13	15.83	16.03	16.73	17.86	10.31	11.01	11.21	11.91	13.04
	12H	15.19	15.86	16.09	16.76	17.91	10.36	11.02	11.26	11.92	13.07
4H	2H	12.32	13.12	13.20	14.00	15.12	8.86	9.66	9.74	10.54	11.66
	3H	14.15	14.82	15.04	15.73	16.86	10.22	10.88	11.11	11.79	12.92
	4H	14.84	15.45	15.75	16.36	17.52	10.76	11.37	11.67	12.27	13.43
	6H	15.36	15.88	16.28	16.81	17.97	11.18	11.70	12.10	12.63	13.79
	8H	15.53	16.02	16.45	16.95	18.12	11.31	11.80	12.23	12.72	13.89
	12H	15.63	16.07	16.57	17.01	18.19	11.38	11.81	12.32	12.76	13.94
8H	4H	14.82	15.31	15.74	16.23	17.40	11.05	11.53	11.97	12.46	13.63
	6H	15.38	15.78	16.33	16.75	17.92	11.56	11.96	12.51	12.93	14.10
	8H	15.60	15.95	16.55	16.91	18.10	11.75	12.10	12.71	13.06	14.25
	12H	15.74	16.05	16.69	17.00	18.24	11.87	12.18	12.83	13.13	14.37
12H	4H	14.78	15.21	15.72	16.16	17.34	11.06	11.49	12.00	12.44	13.62
	6H	15.36	15.71	16.31	16.67	17.86	11.61	11.97	12.57	12.92	14.11
	8H	15.58	15.89	16.54	16.84	18.08	11.82	12.13	12.78	13.08	14.32