

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: P914086

Luminaire Tested: DFN2DIP-PN4F0-040D110US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914086
REPORT IS A COMBINATION OF REPORTS P899736 AND P896497
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN4F0-040D110US927-RLLFLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

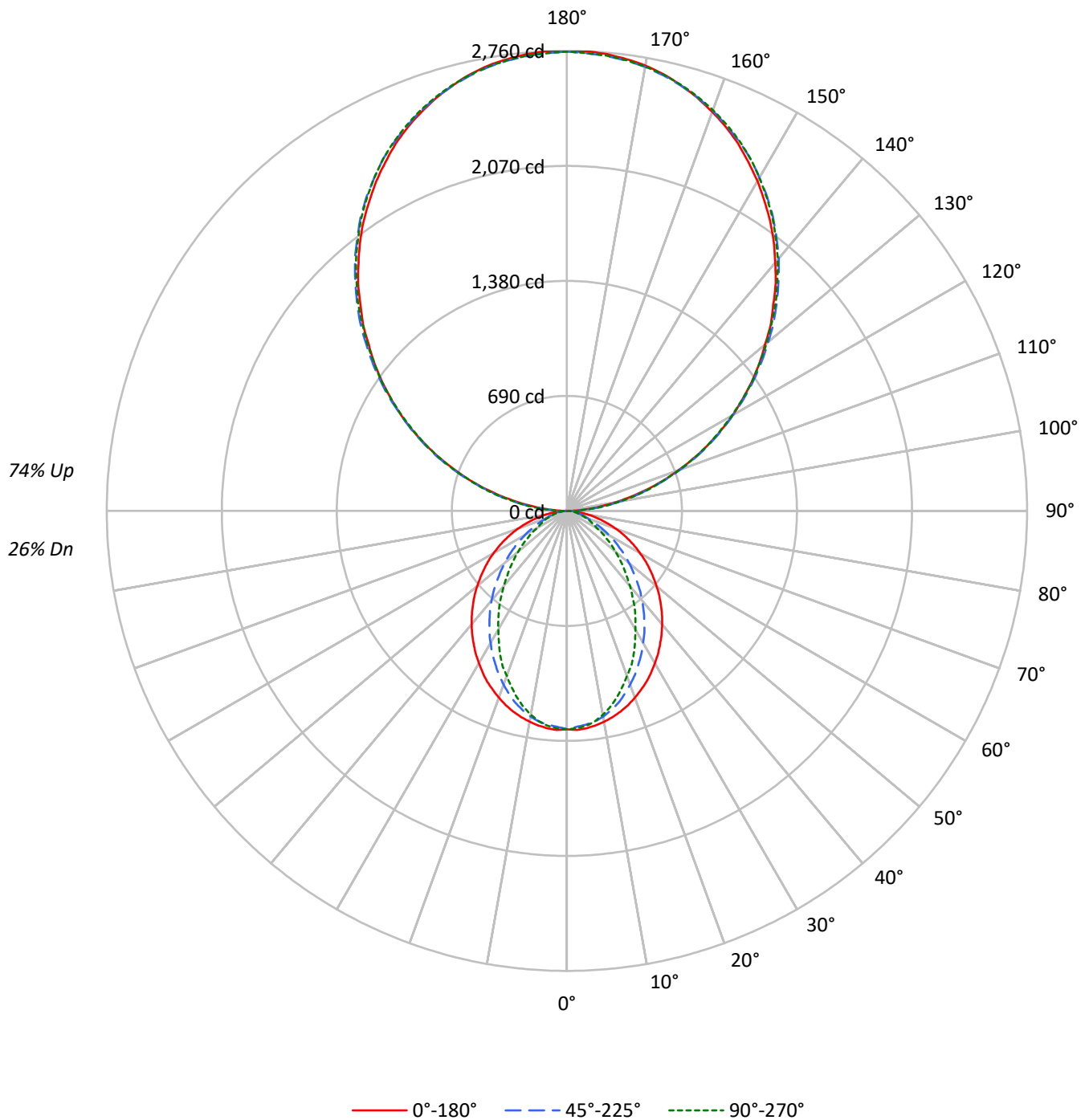
Lumens per Lamp: N/A
Luminaire Lumens: 10405.3 lumens
Efficiency: N/A
Efficacy: 83.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.74' x L: 3.94' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 125
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34
1	93	89	85	82	82	79	76	73	62	60	58	45	44	43	30	30	29
2	85	78	72	67	75	69	65	61	54	51	48	40	38	36	27	26	25
3	77	68	61	56	69	61	55	51	48	44	41	36	33	31	24	23	21
4	71	61	53	47	63	54	48	43	43	38	35	32	29	27	22	20	19
5	65	54	46	41	58	48	42	37	38	34	30	29	26	23	20	18	16
6	60	48	41	35	53	43	37	32	34	30	26	26	23	20	18	16	15
7	55	43	36	31	49	39	33	28	31	26	23	24	20	18	16	14	13
8	51	39	32	27	46	36	29	25	28	24	20	21	18	16	15	13	12
9	47	36	29	24	42	32	26	22	26	21	18	20	17	14	14	12	11
10	44	33	26	21	40	30	24	20	24	19	16	18	15	13	13	11	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	956	956	956
5°	957	941	947
10°	948	923	916
15°	935	892	869
20°	918	850	811
25°	900	803	754
30°	876	755	683
35°	853	703	620
40°	829	650	548
45°	802	590	483
50°	773	530	419
55°	744	466	357
60°	709	398	294
65°	670	330	265
70°	622	266	240
75°	562	235	219
80°	474	198	191
85°	330	133	144

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2157 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.7	1.2
10°-20°	336.9	3.2
20°-30°	473.1	4.5
30°-40°	515.7	5.0
40°-50°	473.9	4.6
50°-60°	372.2	3.6
60°-70°	242.3	2.3
70°-80°	124.7	1.2
80°-90°	39.7	0.4
90°-100°	170.5	1.6
100°-110°	541.8	5.2
110°-120°	927.3	8.9
120°-130°	1219.5	11.7
130°-140°	1368.8	13.2
140°-150°	1342.3	12.9
150°-160°	1126.0	10.8
160°-170°	746.7	7.2
170°-180°	261.0	2.5
0°-30°	932.7	9.0
0°-40°	1448.4	13.9
0°-60°	2294.6	22.1
0°-90°	2701.2	26.0
90°-120°	1639.7	15.8
90°-150°	5570.3	53.5
90°-180°	7704.0	74.0
0°-180°	10405.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1310	1310	1310	1310	1310	
5°	1310	1304	1288	1299	1296	124
15°	1246	1233	1192	1170	1158	351
25°	1131	1093	1014	966	948	520
35°	974	914	810	735	709	610
45°	796	717	593	508	480	615
55°	606	513	385	314	292	541
65°	409	313	206	166	162	405
75°	218	135	95	86	85	231
85°	51	26	22	22	22	58
90°	2	30	81	76	79	10
95°	121	145	149	149	145	135
105°	500	507	512	516	516	528
115°	931	944	940	937	931	920
125°	1353	1374	1368	1360	1358	1209
135°	1751	1776	1781	1779	1772	1353
145°	2125	2142	2155	2158	2149	1328
155°	2430	2437	2444	2456	2448	1119
165°	2644	2641	2641	2658	2646	746
175°	2751	2744	2739	2756	2742	261
180°	2756	2756	2756	2756	2756	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1309.6	1309.6	1309.6	1309.6	1309.6
2.5°	1315.6	1309.6	1296.6	1308.5	1306.1
5°	1309.6	1303.7	1288.2	1298.9	1295.5
7.5°	1298.9	1291.9	1275.3	1279.9	1274.1
10°	1284.8	1276.4	1252.8	1249.1	1242.1
12.5°	1267.0	1256.3	1224.2	1217.2	1204.1
15°	1245.6	1232.6	1192.3	1169.8	1158.0
17.5°	1220.8	1201.7	1151.9	1125.9	1106.9
20°	1192.3	1168.5	1109.3	1079.7	1053.6
22.5°	1161.5	1134.2	1065.4	1025.2	1007.5
25°	1130.7	1092.7	1014.5	966.0	948.1
27.5°	1094.0	1053.6	967.1	911.4	884.1
30°	1054.9	1009.7	914.9	854.5	822.5
32.5°	1016.9	962.3	865.2	794.1	764.4
35°	974.3	913.8	809.5	734.8	708.7
37.5°	932.8	867.5	757.3	675.5	645.9
40°	888.9	817.8	702.8	618.7	587.9
42.5°	843.8	768.0	648.3	560.5	531.0
45°	796.5	717.0	592.6	508.4	480.0
47.5°	751.5	667.3	539.3	455.1	429.0
50°	701.6	617.5	487.1	405.3	380.5
52.5°	653.0	564.1	437.4	359.1	336.6
55°	605.6	513.2	385.2	314.1	291.6
57.5°	557.1	462.2	339.0	272.6	253.7
60°	507.2	412.4	290.3	230.0	211.0
62.5°	458.8	363.9	248.8	192.0	182.6
65°	408.9	312.8	206.2	166.0	162.3
67.5°	361.6	265.5	166.0	145.8	142.2
70°	311.7	219.3	137.4	125.6	120.8
72.5°	264.4	176.6	114.9	105.5	103.1
75°	218.0	135.1	94.8	86.5	85.4
77.5°	171.9	95.9	74.7	69.9	67.5
80°	129.1	68.8	56.8	52.2	52.2
82.5°	90.1	46.3	39.1	36.7	36.7
85°	50.9	26.1	22.5	22.5	22.5
87.5°	19.0	9.4	9.4	8.3	8.3
90°	2.5	29.9	81.4	76.4	78.9
92.5°	51.5	69.8	72.2	74.8	74.8
95°	121.3	144.6	148.7	148.7	144.6
97.5°	201.9	223.5	232.7	232.7	232.7
100°	294.9	314.0	320.7	320.7	318.2
102.5°	393.0	407.1	416.3	418.7	416.3
105°	500.2	506.8	511.8	515.9	515.9
107.5°	606.5	616.5	616.5	618.1	606.5
110°	709.6	722.9	722.9	722.9	716.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	820.9	835.0	832.5	825.8	820.9
115°	930.6	943.8	939.7	937.2	930.6
117.5°	1039.4	1057.6	1046.0	1039.4	1032.8
120°	1149.1	1167.4	1149.1	1149.1	1141.6
122.5°	1248.8	1272.0	1260.4	1253.7	1248.8
125°	1353.4	1374.2	1367.5	1360.1	1357.6
127.5°	1455.6	1481.4	1472.3	1462.3	1455.6
130°	1551.2	1581.1	1576.9	1571.9	1562.8
132.5°	1658.4	1681.6	1683.3	1671.7	1665.0
135°	1750.6	1776.3	1781.3	1778.8	1772.2
137.5°	1853.6	1874.4	1878.5	1876.8	1866.9
140°	1944.2	1964.9	1976.6	1976.6	1967.5
142.5°	2037.3	2058.0	2064.7	2067.1	2058.0
145°	2125.3	2141.9	2155.2	2157.7	2148.6
147.5°	2204.2	2225.0	2235.0	2239.1	2230.0
150°	2285.7	2299.8	2308.9	2316.4	2308.9
152.5°	2357.9	2372.0	2383.7	2392.9	2383.7
155°	2430.3	2436.8	2444.4	2456.0	2448.5
157.5°	2492.5	2497.5	2501.6	2518.3	2506.6
160°	2548.2	2553.2	2555.7	2569.8	2559.9
162.5°	2599.7	2599.7	2602.2	2618.0	2606.4
165°	2643.7	2641.2	2641.2	2657.8	2646.2
167.5°	2683.6	2676.1	2676.1	2692.8	2681.1
170°	2713.5	2706.9	2704.4	2721.0	2706.9
172.5°	2734.3	2727.6	2725.2	2741.8	2727.6
175°	2750.9	2744.3	2739.3	2755.9	2741.8
177.5°	2760.0	2753.4	2748.4	2762.6	2748.4
180°	2755.9	2755.9	2755.9	2755.9	2755.9

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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	4.17	4.84	5.32	5.97	7.55	0.14	0.80	1.28	1.93	3.51
	3H	5.84	6.44	6.99	7.58	9.17	1.31	1.91	2.47	3.05	4.64
	4H	6.44	7.01	7.60	8.15	9.75	1.76	2.32	2.92	3.46	5.06
	6H	6.86	7.38	8.03	8.52	10.13	2.07	2.59	3.24	3.73	5.34
	8H	6.98	7.48	8.15	8.63	10.24	2.16	2.65	3.33	3.81	5.41
	12H	7.04	7.51	8.21	8.66	10.28	2.20	2.66	3.37	3.81	5.44
4H	2H	4.17	4.74	5.34	5.87	7.47	0.71	1.28	1.88	2.42	4.02
	3H	5.99	6.46	7.16	7.62	9.23	2.05	2.52	3.22	3.69	5.30
	4H	6.68	7.11	7.85	8.26	9.89	2.59	3.03	3.77	4.18	5.81
	6H	7.18	7.56	8.36	8.73	10.35	3.00	3.37	4.18	4.55	6.17
	8H	7.36	7.70	8.54	8.87	10.51	3.13	3.48	4.31	4.64	6.28
	12H	7.45	7.76	8.64	8.94	10.58	3.19	3.50	4.38	4.68	6.32
8H	4H	6.63	6.98	7.81	8.14	9.78	2.86	3.21	4.04	4.37	6.01
	6H	7.19	7.48	8.39	8.69	10.32	3.38	3.66	4.57	4.87	6.50
	8H	7.41	7.66	8.62	8.85	10.50	3.57	3.81	4.77	5.00	6.66
	12H	7.55	7.76	8.75	8.95	10.63	3.68	3.90	4.89	5.08	6.77
12H	4H	6.58	6.89	7.77	8.07	9.71	2.86	3.17	4.05	4.35	5.99
	6H	7.17	7.42	8.37	8.60	10.26	3.43	3.67	4.63	4.86	6.51
	8H	7.39	7.60	8.59	8.79	10.47	3.63	3.85	4.83	5.03	6.72

END OF REPORT