

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: P908423

Luminaire Tested: DFN2DIP-PN3F0-030D070US840-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P908423
REPORT IS A COMBINATION OF REPORTS P901088 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-030D070US840-RLLONL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

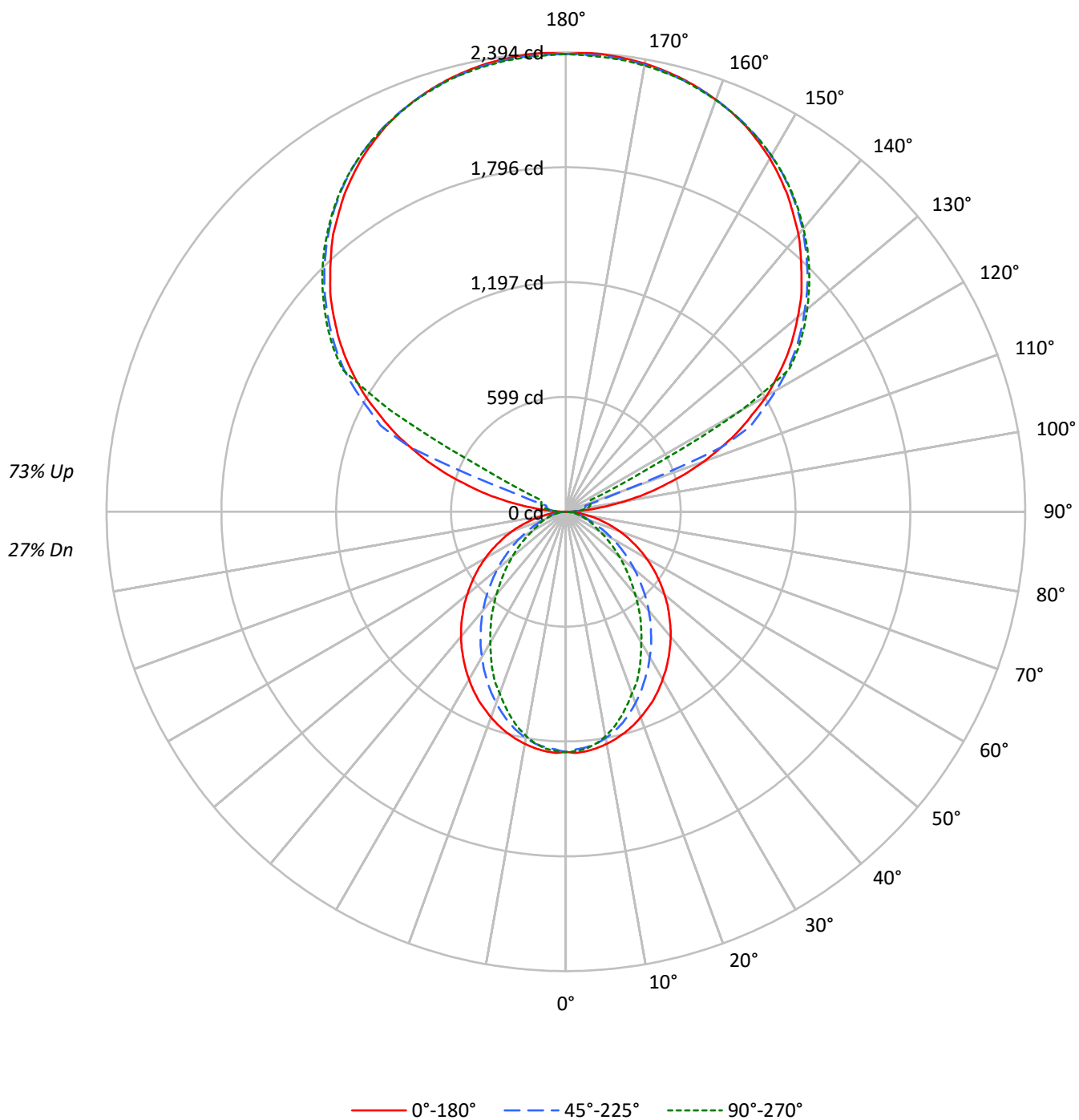
Lumens per Lamp: N/A
Luminaire Lumens: 9573.5 lumens
Efficiency: N/A
Efficacy: 122.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 78.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
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	102	102	102	102	91	91	91	91	71	71	71	52	52	52	35	35	35
1	93	89	85	82	83	79	76	74	62	60	58	46	45	44	31	31	30
2	85	78	72	67	75	70	65	61	55	51	49	41	39	37	28	27	26
3	77	69	62	56	69	62	56	51	48	44	41	36	34	31	25	23	22
4	71	61	53	48	63	55	48	43	43	39	35	32	29	27	22	21	19
5	65	54	46	41	58	49	42	37	39	34	30	29	26	23	20	18	17
6	60	48	41	35	53	44	37	32	35	30	26	26	23	21	18	16	15
7	55	44	36	31	49	39	33	28	31	27	23	24	21	18	17	15	13
8	51	40	32	27	46	36	29	25	29	24	21	22	19	16	16	13	12
9	48	36	29	24	43	33	26	22	26	22	18	20	17	15	14	12	11
10	44	33	26	22	40	30	24	20	24	20	16	19	15	13	13	11	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1464	1464	1464
5°	1465	1439	1449
10°	1450	1410	1401
15°	1429	1363	1328
20°	1402	1297	1238
25°	1374	1225	1151
30°	1337	1150	1041
35°	1300	1070	945
40°	1263	987	834
45°	1220	895	734
50°	1175	802	636
55°	1128	704	542
60°	1074	601	446
65°	1012	496	400
70°	936	398	361
75°	840	349	327
80°	703	289	282
85°	478	188	208

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1612 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.4	1.2
10°-20°	322.1	3.4
20°-30°	452.3	4.7
30°-40°	493.0	5.1
40°-50°	453.1	4.7
50°-60°	355.9	3.7
60°-70°	231.6	2.4
70°-80°	119.2	1.2
80°-90°	34.6	0.4
90°-100°	78.7	0.8
100°-110°	293.3	3.1
110°-120°	777.8	8.1
120°-130°	1290.0	13.5
130°-140°	1370.3	14.3
140°-150°	1273.5	13.3
150°-160°	1023.9	10.7
160°-170°	659.7	6.9
170°-180°	227.1	2.4
0°-30°	891.8	9.3
0°-40°	1384.8	14.5
0°-60°	2193.8	22.9
0°-90°	2579.3	26.9
90°-120°	1149.7	12.0
90°-150°	5083.5	53.1
90°-180°	6994.0	73.1
0°-180°	9573.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1252	1252	1252	1252	1252	
5°	1252	1246	1232	1242	1238	119
15°	1191	1178	1140	1118	1107	336
25°	1081	1045	970	924	906	497
35°	932	874	774	703	678	583
45°	762	686	567	486	459	588
55°	579	491	368	300	279	517
65°	391	299	197	159	155	388
75°	208	129	91	83	82	220
85°	49	25	22	22	22	56
90°	2	21	34	43	47	9
95°	112	55	67	76	74	133
105°	525	577	105	124	131	561
115°	993	1022	1065	266	142	977
125°	1403	1426	1459	1471	1476	1252
135°	1737	1764	1780	1797	1794	1342
145°	2015	2013	2042	2054	2046	1260
155°	2218	2203	2224	2234	2220	1022
165°	2337	2327	2332	2344	2332	660
175°	2391	2379	2382	2394	2377	228
180°	2386	2386	2386	2386	2386	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1252.1	1252.1	1252.1	1252.1	1252.1
2.5°	1257.8	1252.1	1239.6	1251.0	1248.8
5°	1252.1	1246.5	1231.7	1241.9	1238.5
7.5°	1241.9	1235.2	1219.3	1223.8	1218.1
10°	1228.3	1220.4	1197.8	1194.3	1187.6
12.5°	1211.3	1201.1	1170.5	1163.8	1151.2
15°	1190.9	1178.4	1139.9	1118.4	1107.1
17.5°	1167.1	1149.0	1101.4	1076.5	1058.3
20°	1139.9	1117.2	1060.6	1032.4	1007.3
22.5°	1110.5	1084.4	1018.7	980.2	963.2
25°	1081.1	1044.7	970.0	923.5	906.5
27.5°	1045.9	1007.3	924.6	871.4	845.3
30°	1008.6	965.4	874.7	817.1	786.4
32.5°	972.2	920.1	827.3	759.2	730.8
35°	931.5	873.6	774.0	702.6	677.6
37.5°	891.8	829.4	724.1	645.8	617.6
40°	849.9	781.9	672.0	591.5	562.1
42.5°	806.8	734.4	619.9	535.9	507.7
45°	761.5	685.5	566.6	486.0	458.9
47.5°	718.4	638.0	515.6	435.1	410.2
50°	670.9	590.4	465.7	387.5	363.8
52.5°	624.3	539.4	418.2	343.4	321.8
55°	579.0	490.6	368.2	300.3	278.8
57.5°	532.6	441.9	324.2	260.6	242.5
60°	484.9	394.4	277.6	219.8	201.8
62.5°	438.6	347.9	237.9	183.6	174.6
65°	390.9	299.1	197.1	158.6	155.2
67.5°	345.7	253.8	158.6	139.4	135.9
70°	298.0	209.6	131.4	120.1	115.5
72.5°	252.7	168.7	109.9	100.9	98.6
75°	208.4	129.2	90.7	82.7	81.6
77.5°	164.3	91.7	71.4	66.9	64.5
80°	123.5	65.7	54.3	49.9	49.9
82.5°	86.0	44.2	37.4	35.1	35.1
85°	48.7	24.8	21.5	21.5	21.5
87.5°	18.2	9.0	9.0	8.0	8.0
90°	1.6	20.7	34.4	43.2	46.6
92.5°	43.2	36.3	41.4	44.9	46.6
95°	112.1	55.1	67.3	76.0	74.2
97.5°	201.9	60.5	88.0	93.3	94.9
100°	305.7	69.1	98.4	112.1	115.6
102.5°	419.4	416.2	101.9	120.8	126.0
105°	524.8	576.6	105.3	124.2	131.2
107.5°	647.3	690.4	108.9	127.7	134.7
110°	764.9	800.9	302.2	129.6	136.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	875.4	906.3	877.0	132.8	138.1
115°	992.6	1021.9	1065.1	265.9	141.7
117.5°	1094.5	1128.9	1158.4	911.4	459.2
120°	1208.4	1234.3	1265.5	1286.2	1053.1
122.5°	1304.9	1332.6	1367.4	1377.6	1379.4
125°	1403.4	1425.9	1458.8	1470.9	1475.9
127.5°	1493.2	1517.3	1543.4	1560.6	1562.3
130°	1577.8	1605.5	1624.4	1643.5	1641.8
132.5°	1664.2	1686.7	1705.6	1721.1	1719.5
135°	1736.7	1764.3	1779.8	1797.2	1793.7
137.5°	1812.5	1833.3	1850.7	1867.9	1862.8
140°	1886.7	1900.7	1919.6	1935.1	1926.5
142.5°	1949.0	1961.2	1983.5	1997.2	1988.6
145°	2014.7	2012.9	2042.2	2054.3	2045.7
147.5°	2071.4	2066.4	2095.7	2104.3	2097.5
150°	2126.8	2114.8	2142.4	2152.6	2144.0
152.5°	2173.3	2159.6	2185.5	2195.9	2183.8
155°	2218.3	2202.8	2223.5	2233.8	2220.1
157.5°	2254.5	2240.8	2256.3	2268.5	2254.5
160°	2285.7	2275.2	2285.7	2295.9	2283.8
162.5°	2313.2	2302.9	2311.5	2323.6	2308.0
165°	2337.3	2327.1	2332.2	2344.3	2332.2
167.5°	2356.4	2345.9	2351.3	2363.4	2347.8
170°	2372.0	2361.6	2365.0	2377.1	2361.6
172.5°	2382.3	2372.0	2375.5	2387.5	2372.0
175°	2390.9	2378.7	2382.3	2394.3	2377.1
177.5°	2394.3	2382.3	2384.1	2396.2	2380.6
180°	2385.7	2385.7	2385.7	2385.7	2385.7

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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	5.76	6.43	6.90	7.56	9.13	1.73	2.40	2.86	3.52	5.09
	3H	7.42	8.02	8.57	9.15	10.74	2.90	3.50	4.04	4.63	6.21
	4H	8.02	8.59	9.17	9.72	11.31	3.34	3.91	4.49	5.04	6.63
	6H	8.43	8.95	9.59	10.09	11.69	3.64	4.17	4.80	5.30	6.90
	8H	8.54	9.04	9.71	10.19	11.79	3.73	4.22	4.89	5.38	6.97
	12H	8.60	9.07	9.77	10.22	11.83	3.76	4.23	4.93	5.38	6.99
4H	2H	5.76	6.33	6.92	7.46	9.05	2.30	2.87	3.46	4.00	5.59
	3H	7.57	8.04	8.73	9.20	10.80	3.63	4.10	4.79	5.26	6.86
	4H	8.25	8.68	9.42	9.83	11.45	4.16	4.60	5.33	5.75	7.37
	6H	8.75	9.12	9.92	10.29	11.90	4.57	4.94	5.74	6.11	7.72
	8H	8.92	9.26	10.09	10.43	12.05	4.69	5.04	5.86	6.20	7.83
	12H	9.00	9.32	10.19	10.49	12.12	4.74	5.06	5.93	6.23	7.86
8H	4H	8.20	8.55	9.37	9.71	11.34	4.43	4.78	5.60	5.94	7.57
	6H	8.75	9.04	9.95	10.25	11.87	4.93	5.22	6.13	6.43	8.05
	8H	8.97	9.22	10.16	10.40	12.04	5.12	5.37	6.32	6.55	8.20
	12H	9.09	9.31	10.29	10.49	12.17	5.23	5.45	6.43	6.63	8.30
12H	4H	8.15	8.46	9.33	9.63	11.27	4.43	4.74	5.61	5.91	7.55
	6H	8.73	8.98	9.93	10.16	11.80	4.98	5.23	6.18	6.41	8.06
	8H	8.94	9.16	10.14	10.34	12.01	5.18	5.40	6.38	6.58	8.25

END OF REPORT