

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: P916681

Luminaire Tested: DFN2DIP-PN3F0-060D050US930-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916681
REPORT IS A COMBINATION OF REPORTS P901065 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-060D050US930-FLLONL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

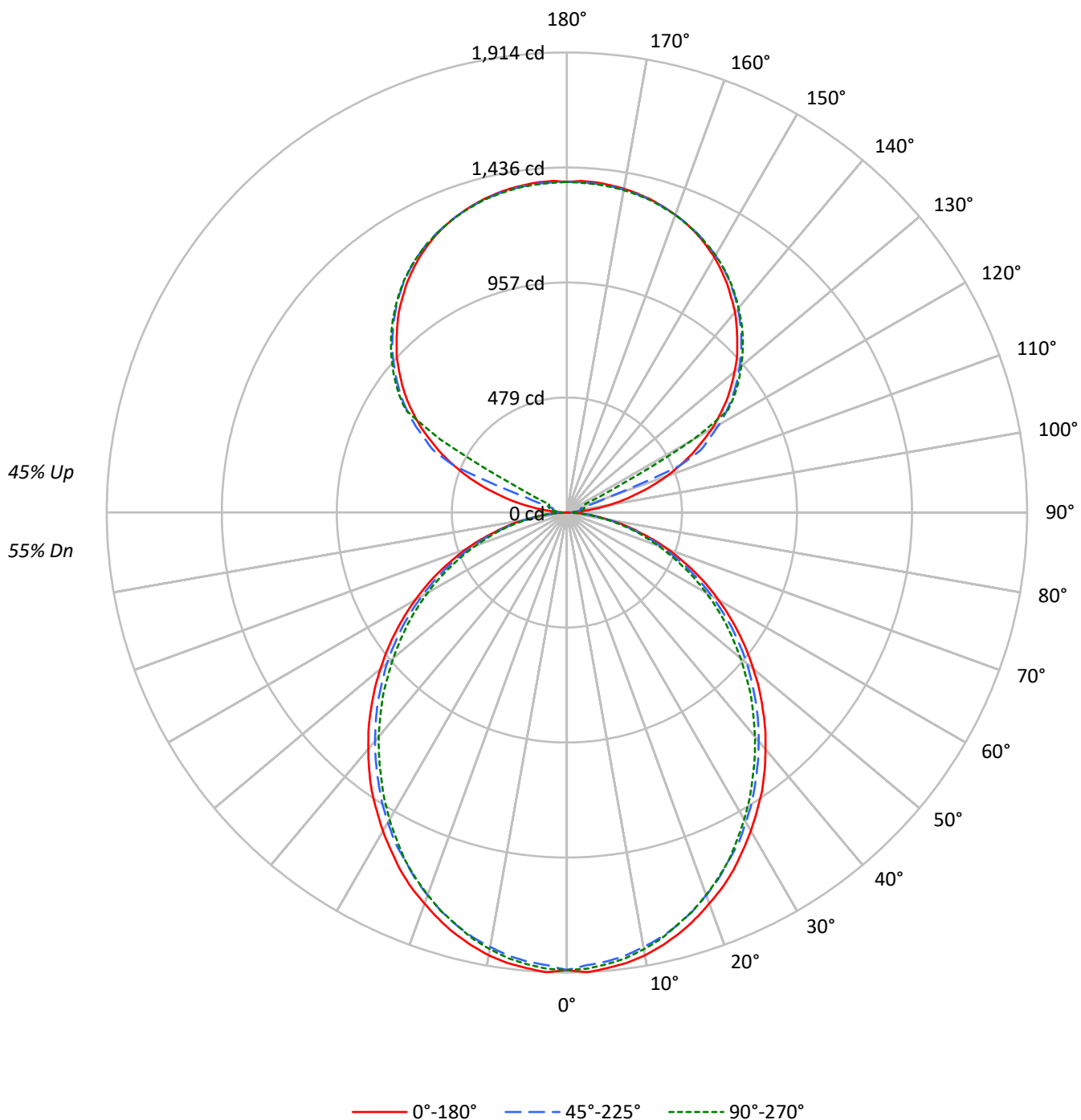
Lumens per Lamp: N/A
Luminaire Lumens: 8878.6 lumens
Efficiency: N/A
Efficacy: 93.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 94.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9821
Total Harmonic Distortion (THDi): 0.08
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	108	108	108	108	100	100	100	100	86	86	86	73	73	73	60	60	60
1	99	94	91	87	92	88	84	81	75	73	71	64	62	60	53	52	51
2	90	82	76	71	83	77	71	67	66	62	58	56	53	51	47	45	43
3	82	73	65	59	76	68	61	56	58	53	49	50	46	43	42	39	37
4	75	64	56	50	69	60	53	47	52	46	42	44	40	37	37	34	32
5	69	57	49	43	64	53	46	41	46	41	36	40	35	32	34	30	27
6	64	51	43	37	59	48	41	35	42	36	32	36	31	28	30	27	24
7	59	46	38	33	54	43	36	31	38	32	28	33	28	25	28	24	22
8	55	42	34	29	51	40	33	28	35	29	25	30	25	22	26	22	19
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	17
10	48	35	28	23	44	33	27	22	29	24	20	25	21	18	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2225	2225	2225
5°	2227	2192	2208
10°	2208	2161	2177
15°	2174	2124	2129
20°	2129	2073	2081
25°	2084	2012	2024
30°	2028	1956	1953
35°	1975	1890	1878
40°	1909	1822	1806
45°	1844	1755	1733
50°	1773	1684	1648
55°	1698	1602	1569
60°	1613	1505	1480
65°	1521	1404	1374
70°	1403	1281	1260
75°	1240	1133	1153
80°	1043	945	951
85°	735	625	620

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1844 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.1	2.0
10°-20°	504.1	5.7
20°-30°	740.8	8.3
30°-40°	860.4	9.7
40°-50°	859.3	9.7
50°-60°	749.3	8.4
60°-70°	553.9	6.2
70°-80°	313.4	3.5
80°-90°	85.1	1.0
90°-100°	45.4	0.5
100°-110°	169.1	1.9
110°-120°	448.5	5.1
120°-130°	743.9	8.4
130°-140°	790.2	8.9
140°-150°	734.4	8.3
150°-160°	590.4	6.7
160°-170°	380.5	4.3
170°-180°	130.9	1.5
0°-30°	1424.0	16.0
0°-40°	2284.3	25.7
0°-60°	3892.9	43.8
0°-90°	4845.3	54.6
90°-120°	663.0	7.5
90°-150°	2931.5	33.0
90°-180°	4033.0	45.4
0°-180°	8878.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1903	1903	1903	1903	1903	
5°	1903	1896	1876	1891	1887	181
15°	1812	1801	1777	1785	1776	510
25°	1640	1625	1594	1598	1594	755
35°	1415	1397	1367	1356	1347	884
45°	1151	1138	1111	1091	1084	889
55°	871	860	838	816	807	779
65°	588	577	558	542	533	581
75°	307	304	295	284	287	328
85°	75	73	71	66	64	84
90°	1	12	20	25	27	8
95°	65	32	39	44	43	77
105°	303	333	61	72	76	323
115°	572	589	614	153	82	564
125°	809	822	841	848	851	722
135°	1002	1018	1026	1036	1034	774
145°	1162	1161	1178	1185	1180	727
155°	1279	1270	1282	1288	1280	589
165°	1348	1342	1345	1352	1345	381
175°	1379	1372	1374	1381	1371	131
180°	1376	1376	1376	1376	1376	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1903.4	1903.4	1903.4	1903.4	1903.4
2.5°	1914.5	1905.4	1885.1	1903.4	1899.9
5°	1903.4	1896.2	1876.0	1890.6	1887.1
7.5°	1890.6	1879.8	1859.5	1874.3	1870.6
10°	1870.6	1857.8	1835.8	1850.4	1844.9
12.5°	1843.1	1832.1	1810.2	1819.3	1815.7
15°	1811.9	1801.1	1777.2	1784.6	1775.5
17.5°	1773.5	1762.7	1738.8	1747.8	1738.8
20°	1731.4	1720.5	1694.8	1700.3	1693.1
22.5°	1689.5	1672.9	1649.0	1649.0	1645.4
25°	1639.9	1625.4	1594.2	1597.7	1594.2
27.5°	1584.9	1572.1	1548.4	1543.0	1533.9
30°	1530.2	1515.4	1488.1	1482.6	1475.2
32.5°	1471.5	1460.7	1431.3	1420.2	1412.9
35°	1414.9	1396.6	1367.3	1356.2	1347.0
37.5°	1350.8	1334.2	1305.0	1292.1	1283.0
40°	1284.9	1270.2	1240.9	1224.6	1217.2
42.5°	1220.8	1206.1	1177.0	1158.5	1147.6
45°	1151.4	1138.5	1110.9	1091.0	1083.5
47.5°	1083.5	1070.7	1041.5	1021.2	1010.3
50°	1012.1	1003.0	977.4	951.7	942.6
52.5°	942.6	929.8	906.0	885.9	873.1
55°	871.3	860.2	838.3	816.4	807.2
57.5°	799.9	790.8	766.9	744.9	737.5
60°	728.4	721.2	695.6	675.4	669.9
62.5°	658.8	646.0	627.8	609.5	602.2
65°	587.6	576.6	558.3	541.8	532.6
67.5°	514.4	505.1	488.8	476.0	468.6
70°	446.6	439.3	422.7	409.9	402.8
72.5°	377.1	369.7	360.6	347.8	342.3
75°	307.4	303.9	294.6	283.7	287.4
77.5°	245.2	237.9	234.2	228.8	223.3
80°	183.1	181.2	177.5	172.0	168.4
82.5°	124.5	124.5	122.7	115.4	115.4
85°	74.9	73.2	71.4	65.8	64.1
87.5°	33.0	29.4	25.6	20.2	18.3
90°	1.0	11.9	19.9	24.9	26.8
92.5°	24.9	21.0	23.9	25.9	26.8
95°	64.7	31.8	38.8	43.9	42.8
97.5°	116.4	34.9	50.7	53.8	54.7
100°	176.3	39.9	56.7	64.7	66.7
102.5°	241.9	239.9	58.8	69.6	72.7
105°	302.6	332.6	60.7	71.7	75.7
107.5°	373.3	398.1	62.8	73.6	77.7
110°	441.1	461.9	174.2	74.7	78.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	504.8	522.6	505.7	76.6	79.7
115°	572.4	589.3	614.2	153.4	81.7
117.5°	631.1	651.0	668.1	525.5	264.8
120°	696.8	711.8	729.7	741.7	607.2
122.5°	752.5	768.5	788.5	794.4	795.5
125°	809.3	822.3	841.2	848.2	851.2
127.5°	861.0	875.0	890.1	899.9	900.9
130°	909.9	925.9	936.7	947.7	946.8
132.5°	959.7	972.7	983.5	992.5	991.6
135°	1001.5	1017.5	1026.3	1036.4	1034.4
137.5°	1045.2	1057.2	1067.2	1077.2	1074.2
140°	1088.0	1096.1	1106.9	1115.9	1111.0
142.5°	1124.0	1131.0	1143.9	1151.8	1146.8
145°	1161.8	1160.7	1177.6	1184.6	1179.7
147.5°	1194.6	1191.6	1208.5	1213.5	1209.6
150°	1226.5	1219.5	1235.4	1241.4	1236.4
152.5°	1253.3	1245.4	1260.3	1266.3	1259.3
155°	1279.2	1270.3	1282.2	1288.2	1280.3
157.5°	1300.1	1292.2	1301.1	1308.1	1300.1
160°	1318.1	1312.1	1318.1	1324.0	1317.0
162.5°	1333.9	1328.0	1332.9	1339.9	1331.0
165°	1347.9	1342.0	1344.9	1351.8	1344.9
167.5°	1358.9	1352.8	1355.9	1362.9	1353.9
170°	1367.8	1361.8	1363.8	1370.8	1361.8
172.5°	1373.8	1367.8	1369.9	1376.8	1367.8
175°	1378.8	1371.7	1373.8	1380.7	1370.8
177.5°	1380.7	1373.8	1374.8	1381.8	1372.8
180°	1375.7	1375.7	1375.7	1375.7	1375.7

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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	10.42	11.33	11.34	12.26	13.47	9.99	10.89	10.90	11.82	13.03
	3H	12.08	12.89	13.01	13.84	15.07	11.60	12.41	12.53	13.35	14.58
	4H	12.67	13.43	13.61	14.38	15.62	12.18	12.95	13.13	13.90	15.14
	6H	13.07	13.77	14.02	14.73	15.98	12.58	13.28	13.53	14.24	15.49
	8H	13.17	13.84	14.13	14.81	16.06	12.68	13.35	13.64	14.32	15.57
	12H	13.22	13.86	14.18	14.82	16.10	12.72	13.36	13.69	14.33	15.60
4H	2H	10.89	11.65	11.84	12.60	13.84	10.54	11.30	11.48	12.25	13.49
	3H	12.75	13.39	13.71	14.37	15.62	12.35	12.99	13.31	13.97	15.22
	4H	13.46	14.05	14.43	15.02	16.30	13.04	13.63	14.01	14.60	15.88
	6H	13.97	14.48	14.95	15.47	16.75	13.55	14.05	14.53	15.05	16.33
	8H	14.12	14.59	15.10	15.58	16.87	13.69	14.17	14.68	15.16	16.45
	12H	14.19	14.62	15.19	15.63	16.92	13.76	14.18	14.76	15.19	16.48
8H	4H	13.66	14.13	14.64	15.12	16.41	13.29	13.76	14.27	14.75	16.04
	6H	14.28	14.67	15.29	15.71	16.99	13.91	14.30	14.92	15.33	16.62
	8H	14.50	14.84	15.52	15.86	17.17	14.12	14.46	15.13	15.48	16.79
	12H	14.63	14.93	15.65	15.95	17.30	14.23	14.53	15.25	15.55	16.90
12H	4H	13.64	14.07	14.65	15.08	16.37	13.28	13.71	14.28	14.71	16.01
	6H	14.31	14.66	15.33	15.68	16.98	13.95	14.29	14.96	15.31	16.62
	8H	14.55	14.85	15.57	15.87	17.22	14.18	14.48	15.20	15.50	16.85

END OF REPORT