

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: P905717

Luminaire Tested: DFN2DIP-PN3F0-040D060US835-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905717
REPORT IS A COMBINATION OF REPORTS P901075 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-040D060US835-FLLONL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

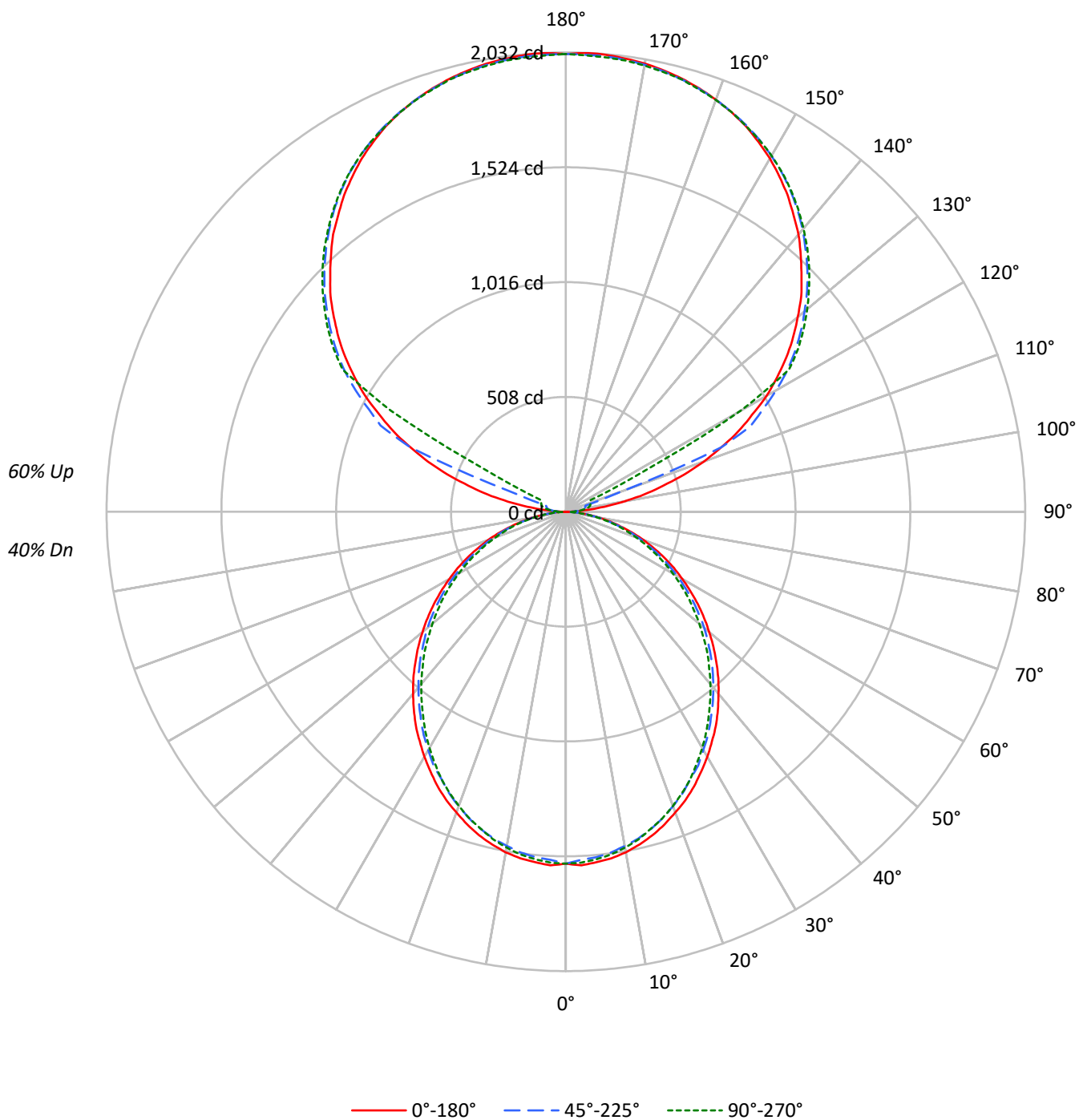
Lumens per Lamp: N/A
Luminaire Lumens: 9900.0 lumens
Efficiency: N/A
Efficacy: 122.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 80.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47
1	96	91	87	84	87	83	80	77	68	66	64	54	53	51	41	41	40
2	87	80	74	69	79	73	68	63	60	56	53	48	45	43	37	35	33
3	79	70	63	57	72	64	58	53	53	48	44	42	39	36	32	30	28
4	73	62	54	48	66	57	50	45	47	42	38	37	34	31	29	26	24
5	67	55	47	41	60	50	44	38	42	37	33	34	30	27	26	23	21
6	61	49	41	36	56	45	38	33	38	32	28	30	26	23	24	21	19
7	57	45	37	31	51	41	34	29	34	29	25	28	24	21	22	19	17
8	52	40	33	27	48	37	30	26	31	26	22	25	21	18	20	17	15
9	49	37	29	24	44	34	27	23	28	23	20	23	19	17	18	15	13
10	46	34	27	22	41	31	25	20	26	21	18	21	18	15	17	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1819	1819	1819
5°	1821	1793	1805
10°	1805	1767	1780
15°	1778	1737	1741
20°	1741	1695	1701
25°	1704	1646	1655
30°	1658	1599	1597
35°	1615	1545	1536
40°	1561	1490	1477
45°	1508	1435	1417
50°	1450	1377	1347
55°	1388	1310	1283
60°	1319	1230	1210
65°	1243	1148	1123
70°	1147	1047	1030
75°	1014	927	943
80°	852	773	778
85°	601	511	507

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1508 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.5	1.5
10°-20°	412.2	4.2
20°-30°	605.7	6.1
30°-40°	703.5	7.1
40°-50°	702.6	7.1
50°-60°	612.7	6.2
60°-70°	452.9	4.6
70°-80°	256.2	2.6
80°-90°	71.2	0.7
90°-100°	66.8	0.7
100°-110°	248.9	2.5
110°-120°	660.2	6.7
120°-130°	1094.9	11.1
130°-140°	1163.0	11.7
140°-150°	1080.9	10.9
150°-160°	869.0	8.8
160°-170°	560.0	5.7
170°-180°	192.7	1.9
0°-30°	1164.4	11.8
0°-40°	1867.9	18.9
0°-60°	3183.2	32.2
0°-90°	3963.6	40.0
90°-120°	975.8	9.9
90°-150°	4314.7	43.6
90°-180°	5936.0	60.0
0°-180°	9900.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1556	1556	1556	1556	1556	
5°	1556	1550	1534	1546	1543	148
15°	1482	1473	1453	1459	1452	417
25°	1341	1329	1304	1306	1304	617
35°	1157	1142	1118	1109	1102	722
45°	941	931	908	892	886	727
55°	712	703	686	668	660	637
65°	480	471	456	443	436	475
75°	251	248	241	232	235	268
85°	61	60	58	54	52	68
90°	1	18	29	37	40	9
95°	95	47	57	65	63	113
105°	445	489	89	105	111	476
115°	842	867	904	226	120	829
125°	1191	1210	1238	1248	1253	1062
135°	1474	1498	1511	1525	1522	1139
145°	1710	1708	1733	1744	1736	1069
155°	1883	1870	1887	1896	1884	868
165°	1984	1975	1980	1990	1980	560
175°	2029	2019	2022	2032	2018	193
180°	2025	2025	2025	2025	2025	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1556.4	1556.4	1556.4	1556.4	1556.4
2.5°	1565.5	1558.0	1541.5	1556.4	1553.6
5°	1556.4	1550.5	1534.0	1545.9	1543.1
7.5°	1545.9	1537.0	1520.5	1532.6	1529.6
10°	1529.6	1519.1	1501.2	1513.1	1508.6
12.5°	1507.0	1498.1	1480.2	1487.7	1484.6
15°	1481.6	1472.7	1453.2	1459.2	1451.8
17.5°	1450.2	1441.3	1421.8	1429.2	1421.8
20°	1415.7	1406.8	1385.9	1390.3	1384.5
22.5°	1381.4	1367.9	1348.4	1348.4	1345.4
25°	1340.9	1329.0	1303.6	1306.5	1303.6
27.5°	1296.0	1285.5	1266.2	1261.7	1254.3
30°	1251.2	1239.2	1216.8	1212.3	1206.3
32.5°	1203.3	1194.4	1170.4	1161.4	1155.3
35°	1156.9	1142.0	1118.0	1109.0	1101.5
37.5°	1104.5	1091.0	1067.0	1056.6	1049.1
40°	1050.7	1038.6	1014.6	1001.3	995.3
42.5°	998.3	986.2	962.4	947.3	938.4
45°	941.4	931.0	908.4	892.1	886.0
47.5°	886.0	875.5	851.6	835.1	826.2
50°	827.6	820.1	799.2	778.2	770.7
52.5°	770.7	760.3	740.9	724.4	713.9
55°	712.5	703.4	685.5	667.5	660.1
57.5°	654.0	646.6	627.0	609.1	603.1
60°	595.6	589.7	568.8	552.3	547.8
62.5°	538.8	528.3	513.4	498.4	492.4
65°	480.5	471.4	456.5	443.0	435.6
67.5°	420.6	413.0	399.7	389.2	383.2
70°	365.2	359.2	345.7	335.2	329.3
72.5°	308.4	302.3	294.9	284.4	279.9
75°	251.4	248.5	240.9	232.0	235.0
77.5°	200.5	194.5	191.5	187.0	182.6
80°	149.7	148.1	145.1	140.7	137.7
82.5°	101.8	101.8	100.4	94.3	94.3
85°	61.3	59.9	58.4	53.8	52.4
87.5°	27.0	24.0	21.0	16.5	14.9
90°	1.4	17.6	29.2	36.7	39.5
92.5°	36.7	30.8	35.1	38.1	39.5
95°	95.2	46.8	57.1	64.6	63.0
97.5°	171.4	51.3	74.6	79.2	80.6
100°	259.4	58.6	83.5	95.2	98.1
102.5°	356.0	353.2	86.5	102.5	107.0
105°	445.4	489.4	89.4	105.4	111.4
107.5°	549.5	586.0	92.4	108.4	114.3
110°	649.2	679.8	256.5	110.0	115.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	742.9	769.2	744.3	112.7	117.3
115°	842.5	867.4	904.1	225.7	120.2
117.5°	928.9	958.2	983.2	773.6	389.7
120°	1025.7	1047.6	1074.1	1091.6	893.8
122.5°	1107.6	1131.1	1160.5	1169.2	1170.8
125°	1191.2	1210.3	1238.1	1248.4	1252.7
127.5°	1267.4	1287.9	1310.0	1324.6	1326.0
130°	1339.2	1362.7	1378.7	1394.9	1393.5
132.5°	1412.5	1431.6	1447.6	1460.8	1459.4
135°	1474.1	1497.6	1510.6	1525.4	1522.4
137.5°	1538.4	1556.0	1570.8	1585.4	1581.1
140°	1601.4	1613.3	1629.3	1642.5	1635.2
142.5°	1654.3	1664.6	1683.6	1695.2	1687.9
145°	1710.0	1708.4	1733.3	1743.6	1736.3
147.5°	1758.2	1753.8	1778.7	1786.0	1780.3
150°	1805.2	1794.9	1818.4	1827.1	1819.8
152.5°	1844.7	1833.0	1854.9	1863.8	1853.5
155°	1882.8	1869.7	1887.3	1896.0	1884.3
157.5°	1913.6	1901.9	1915.1	1925.4	1913.6
160°	1940.0	1931.1	1940.0	1948.7	1938.5
162.5°	1963.3	1954.6	1961.9	1972.2	1959.0
165°	1983.9	1975.2	1979.5	1989.8	1979.5
167.5°	2000.0	1991.2	1995.7	2006.0	1992.7
170°	2013.3	2004.4	2007.4	2017.6	2004.4
172.5°	2022.0	2013.3	2016.2	2026.5	2013.3
175°	2029.3	2019.0	2022.0	2032.2	2017.6
177.5°	2032.2	2022.0	2023.5	2033.8	2020.6
180°	2024.9	2024.9	2024.9	2024.9	2024.9

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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	8.32	9.09	9.35	10.14	11.54	7.88	8.65	8.91	9.70	11.11
	3H	9.96	10.66	11.01	11.71	13.14	9.48	10.18	10.53	11.23	12.66
	4H	10.54	11.20	11.60	12.26	13.69	10.06	10.72	11.12	11.77	13.21
	6H	10.93	11.54	12.00	12.60	14.05	10.44	11.05	11.51	12.11	13.56
	8H	11.03	11.61	12.11	12.69	14.13	10.54	11.12	11.62	12.20	13.64
	12H	11.08	11.63	12.16	12.70	14.16	10.58	11.13	11.66	12.20	13.66
4H	2H	8.76	9.42	9.83	10.48	11.91	8.41	9.07	9.48	10.13	11.56
	3H	10.61	11.17	11.69	12.25	13.69	10.21	10.76	11.29	11.85	13.29
	4H	11.32	11.83	12.40	12.90	14.37	10.90	11.41	11.98	12.48	13.95
	6H	11.82	12.26	12.91	13.36	14.82	11.40	11.84	12.49	12.93	14.39
	8H	11.97	12.38	13.06	13.46	14.94	11.54	11.95	12.63	13.04	14.51
	12H	12.04	12.40	13.14	13.51	14.99	11.60	11.97	12.70	13.07	14.55
8H	4H	11.51	11.91	12.59	13.00	14.48	11.14	11.54	12.22	12.63	14.11
	6H	12.13	12.46	13.24	13.59	15.07	11.75	12.09	12.86	13.22	14.69
	8H	12.34	12.64	13.46	13.75	15.24	11.96	12.25	13.08	13.37	14.86
	12H	12.47	12.72	13.59	13.83	15.36	12.07	12.32	13.19	13.43	14.96
12H	4H	11.49	11.85	12.59	12.96	14.44	11.12	11.49	12.23	12.59	14.08
	6H	12.15	12.45	13.27	13.56	15.05	11.79	12.08	12.91	13.20	14.69
	8H	12.39	12.65	13.51	13.75	15.29	12.02	12.27	13.14	13.38	14.91

END OF REPORT