

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: P925012

Luminaire Tested: DFN2DIP-PN4F0-050D060US950-FLLFLL

Issue Date: 11/21/2024

**Test Information**

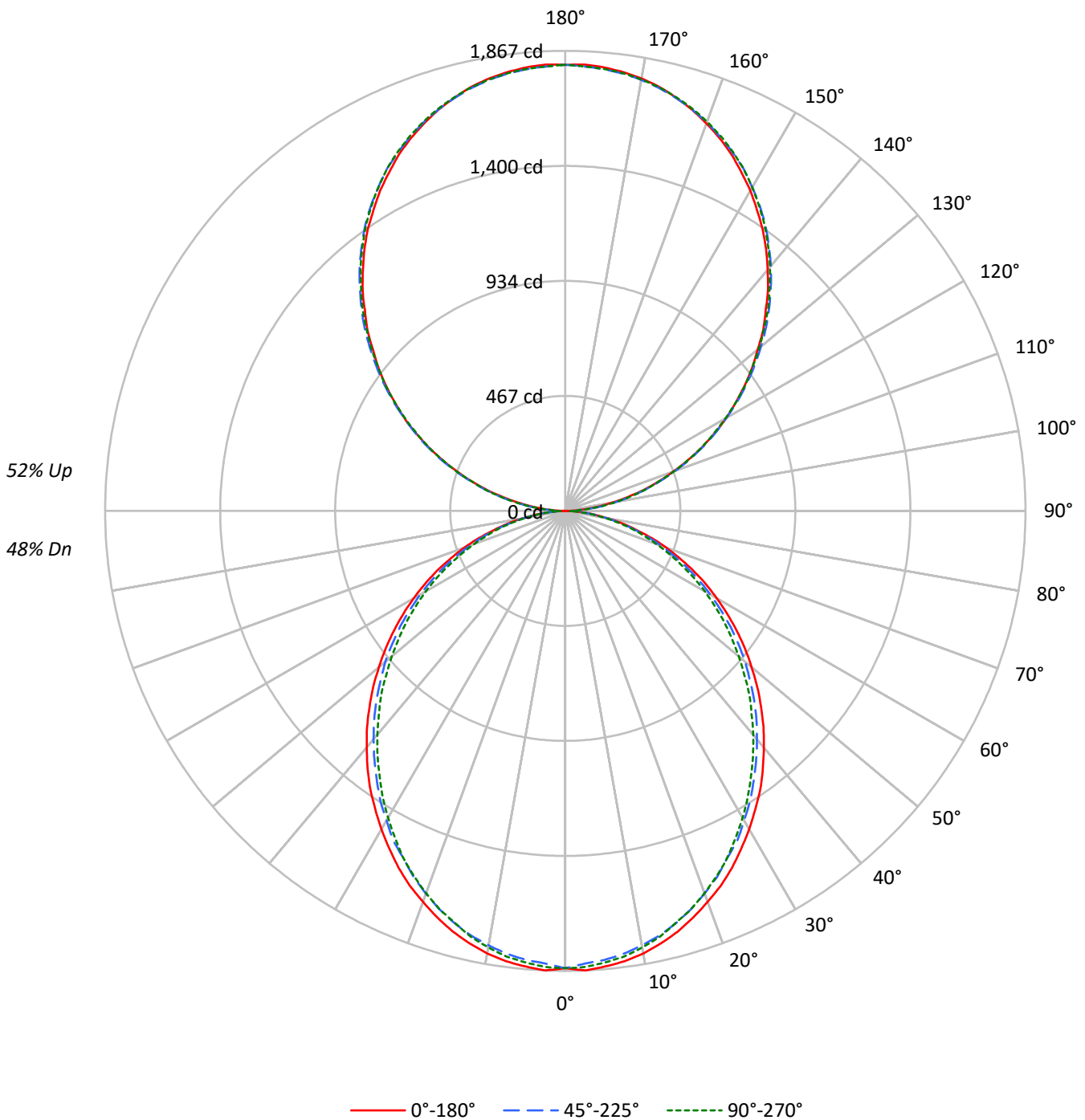
Test Method: LM-79-2019  
Report Number: P925012  
REPORT IS A COMBINATION OF REPORTS P899647 AND P896497  
Test Lab: INNOVATION CENTER  
Issue Date: 11/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DIP-PN4F0-050D060US950-FLLFLL  
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9788.0 lumens  
Efficiency: N/A  
Efficacy: 109.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 3.74' x L: 3.94' x H: 0.1')  
CIE Type: General Diffuse  
  
Input Watts (W): 89.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9951  
Total Harmonic Distortion (THDi): 0.07  
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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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.7	1.8
10°-20°	491.5	5.0
20°-30°	722.3	7.4
30°-40°	838.9	8.6
40°-50°	837.9	8.6
50°-60°	730.6	7.5
60°-70°	540.1	5.5
70°-80°	305.6	3.1
80°-90°	85.8	0.9
90°-100°	112.0	1.1
100°-110°	355.9	3.6
110°-120°	609.1	6.2
120°-130°	801.1	8.2
130°-140°	899.2	9.2
140°-150°	881.7	9.0
150°-160°	739.6	7.6
160°-170°	490.5	5.0
170°-180°	171.4	1.8
0°-30°	1388.5	14.2
0°-40°	2227.5	22.8
0°-60°	3796.0	38.8
0°-90°	4727.4	48.3
90°-120°	1077.0	11.0
90°-150°	3659.0	37.4
90°-180°	5061.0	51.7
0°-180°	9788.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1856	1856	1856	1856	1856	
5°	1856	1849	1829	1844	1840	176
15°	1767	1756	1733	1740	1731	498
25°	1599	1585	1554	1558	1554	736
35°	1380	1362	1333	1322	1314	862
45°	1123	1110	1083	1064	1057	866
55°	850	839	817	796	787	760
65°	573	562	544	528	519	567
75°	300	296	287	277	280	320
85°	73	71	70	64	62	82
90°	2	20	54	50	52	9
95°	80	95	98	98	95	89
105°	329	333	336	339	339	347
115°	611	620	617	616	611	605
125°	889	903	898	893	892	794
135°	1150	1167	1170	1168	1164	889
145°	1396	1407	1416	1417	1411	872
155°	1596	1601	1606	1613	1608	735
165°	1737	1735	1735	1746	1738	490
175°	1807	1803	1799	1810	1801	172
180°	1810	1810	1810	1810	1810	



TEST NUMBER: P925012

CATALOG NUMBER: DFN2DIP-PN4F0-050D060US950-FLLFL

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1856.0	1856.0	1856.0	1856.0	1856.0
2.5°	1866.8	1857.9	1838.3	1856.0	1852.7
5°	1856.0	1849.0	1829.3	1843.5	1840.2
7.5°	1843.5	1832.9	1813.3	1827.7	1824.0
10°	1824.0	1811.6	1790.2	1804.3	1799.1
12.5°	1797.1	1786.6	1765.2	1774.1	1770.4
15°	1766.8	1756.2	1732.9	1740.2	1731.2
17.5°	1729.3	1718.7	1695.4	1704.3	1695.4
20°	1688.3	1677.7	1652.7	1658.0	1651.0
22.5°	1647.4	1631.2	1608.0	1608.0	1604.3
25°	1599.1	1584.9	1554.5	1558.0	1554.5
27.5°	1545.5	1533.0	1509.9	1504.6	1495.7
30°	1492.1	1477.7	1451.0	1445.7	1438.5
32.5°	1434.9	1424.3	1395.7	1384.9	1377.8
35°	1379.6	1361.8	1333.2	1322.4	1313.6
37.5°	1317.1	1301.1	1272.4	1259.9	1251.1
40°	1253.0	1238.6	1210.0	1194.0	1186.9
42.5°	1190.5	1176.1	1147.7	1129.6	1119.0
45°	1122.7	1110.2	1083.3	1063.8	1056.6
47.5°	1056.6	1044.1	1015.5	995.8	985.2
50°	986.9	978.0	953.0	928.1	919.1
52.5°	919.1	906.6	883.5	863.8	851.3
55°	849.6	838.9	817.4	796.0	787.1
57.5°	779.9	771.0	747.7	726.4	719.1
60°	710.3	703.3	678.3	658.5	653.3
62.5°	642.5	630.0	612.2	594.3	587.2
65°	573.0	562.2	544.4	528.3	519.4
67.5°	501.6	492.6	476.6	464.1	456.9
70°	435.5	428.3	412.2	399.7	392.8
72.5°	367.8	360.5	351.6	339.1	333.8
75°	299.7	296.3	287.2	276.7	280.3
77.5°	239.2	231.9	228.4	223.0	217.8
80°	178.6	176.7	173.1	167.8	164.2
82.5°	121.3	121.3	119.6	112.5	112.5
85°	73.1	71.4	69.6	64.2	62.5
87.5°	32.1	28.6	25.0	19.7	17.8
90°	1.6	19.7	53.5	50.2	51.8
92.5°	33.9	45.9	47.5	49.1	49.1
95°	79.7	94.9	97.7	97.7	94.9
97.5°	132.6	146.8	152.8	152.8	152.8
100°	193.8	206.3	210.6	210.6	209.0
102.5°	258.2	267.4	273.4	275.0	273.4
105°	328.6	332.9	336.2	339.0	339.0
107.5°	398.4	405.0	405.0	406.0	398.4
110°	466.1	474.8	474.8	474.8	470.4



TEST NUMBER: P925012

CATALOG NUMBER: DFN2DIP-PN4F0-050D060US950-FLLFLL

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	539.2	548.5	546.8	542.4	539.2
115°	611.2	620.0	617.2	615.6	611.2
117.5°	682.8	694.8	687.1	682.8	678.4
120°	754.8	766.8	754.8	754.8	749.8
122.5°	820.2	835.5	827.9	823.6	820.2
125°	889.0	902.7	898.3	893.4	891.8
127.5°	956.2	973.1	967.1	960.6	956.2
130°	1019.0	1038.6	1035.9	1032.6	1026.6
132.5°	1089.4	1104.6	1105.7	1098.1	1093.7
135°	1150.0	1166.8	1170.1	1168.5	1164.1
137.5°	1217.6	1231.2	1234.0	1232.9	1226.4
140°	1277.1	1290.8	1298.4	1298.4	1292.4
142.5°	1338.2	1351.8	1356.2	1357.8	1351.8
145°	1396.1	1407.0	1415.7	1417.4	1411.3
147.5°	1447.9	1461.5	1468.1	1470.8	1464.8
150°	1501.4	1510.7	1516.7	1521.5	1516.7
152.5°	1548.8	1558.2	1565.8	1571.8	1565.8
155°	1596.3	1600.7	1605.6	1613.3	1608.3
157.5°	1637.3	1640.6	1643.3	1654.2	1646.6
160°	1673.9	1677.1	1678.8	1688.0	1681.5
162.5°	1707.7	1707.7	1709.3	1719.7	1712.0
165°	1736.6	1734.9	1734.9	1745.9	1738.3
167.5°	1762.8	1757.9	1757.9	1768.8	1761.2
170°	1782.5	1778.1	1776.4	1787.3	1778.1
172.5°	1796.1	1791.7	1790.1	1801.0	1791.7
175°	1807.0	1802.7	1799.3	1810.3	1801.0
177.5°	1813.0	1808.7	1805.3	1814.6	1805.3
180°	1810.3	1810.3	1810.3	1810.3	1810.3



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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	8.17	9.02	9.14	10.00	11.30	7.73	8.58	8.70	9.56	10.86
	3H	9.83	10.59	10.82	11.59	12.91	9.35	10.11	10.33	11.10	12.42
	4H	10.42	11.14	11.42	12.14	13.47	9.94	10.66	10.93	11.65	12.98
	6H	10.83	11.49	11.83	12.49	13.83	10.33	11.00	11.34	12.00	13.34
	8H	10.93	11.56	11.94	12.58	13.91	10.44	11.07	11.45	12.09	13.42
	12H	10.98	11.58	12.00	12.59	13.95	10.48	11.08	11.50	12.09	13.45
4H	2H	8.63	9.35	9.63	10.35	11.67	8.28	9.00	9.28	10.00	11.32
	3H	10.50	11.10	11.51	12.13	13.47	10.10	10.70	11.11	11.72	13.06
	4H	11.22	11.76	12.23	12.78	14.15	10.80	11.35	11.82	12.37	13.73
	6H	11.73	12.21	12.76	13.25	14.61	11.31	11.78	12.34	12.82	14.18
	8H	11.88	12.33	12.91	13.36	14.73	11.46	11.90	12.49	12.93	14.31
	12H	11.96	12.36	13.01	13.41	14.79	11.52	11.92	12.57	12.97	14.35
8H	4H	11.41	11.85	12.44	12.89	14.26	11.04	11.48	12.07	12.52	13.89
	6H	12.05	12.41	13.10	13.49	14.86	11.67	12.03	12.72	13.11	14.48
	8H	12.27	12.59	13.33	13.65	15.04	11.88	12.21	12.95	13.27	14.66
	12H	12.40	12.68	13.47	13.74	15.17	12.00	12.28	13.07	13.34	14.77
12H	4H	11.40	11.80	12.45	12.85	14.23	11.03	11.43	12.08	12.48	13.86
	6H	12.08	12.40	13.14	13.46	14.85	11.71	12.03	12.77	13.09	14.49
	8H	12.32	12.60	13.39	13.66	15.09	11.95	12.23	13.01	13.29	14.72