

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: P911048

Luminaire Tested: DFN2DIP-PN2F0-020D060US850-FLLFLL

Issue Date: 11/21/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P911048  
REPORT IS A COMBINATION OF REPORTS P899501 AND P896349  
Test Lab: INNOVATION CENTER  
Issue Date: 11/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DIP-PN2F0-020D060US850-FLLFLL  
Description: 2 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens  
Light Source: -  
Ballast/Driver: -

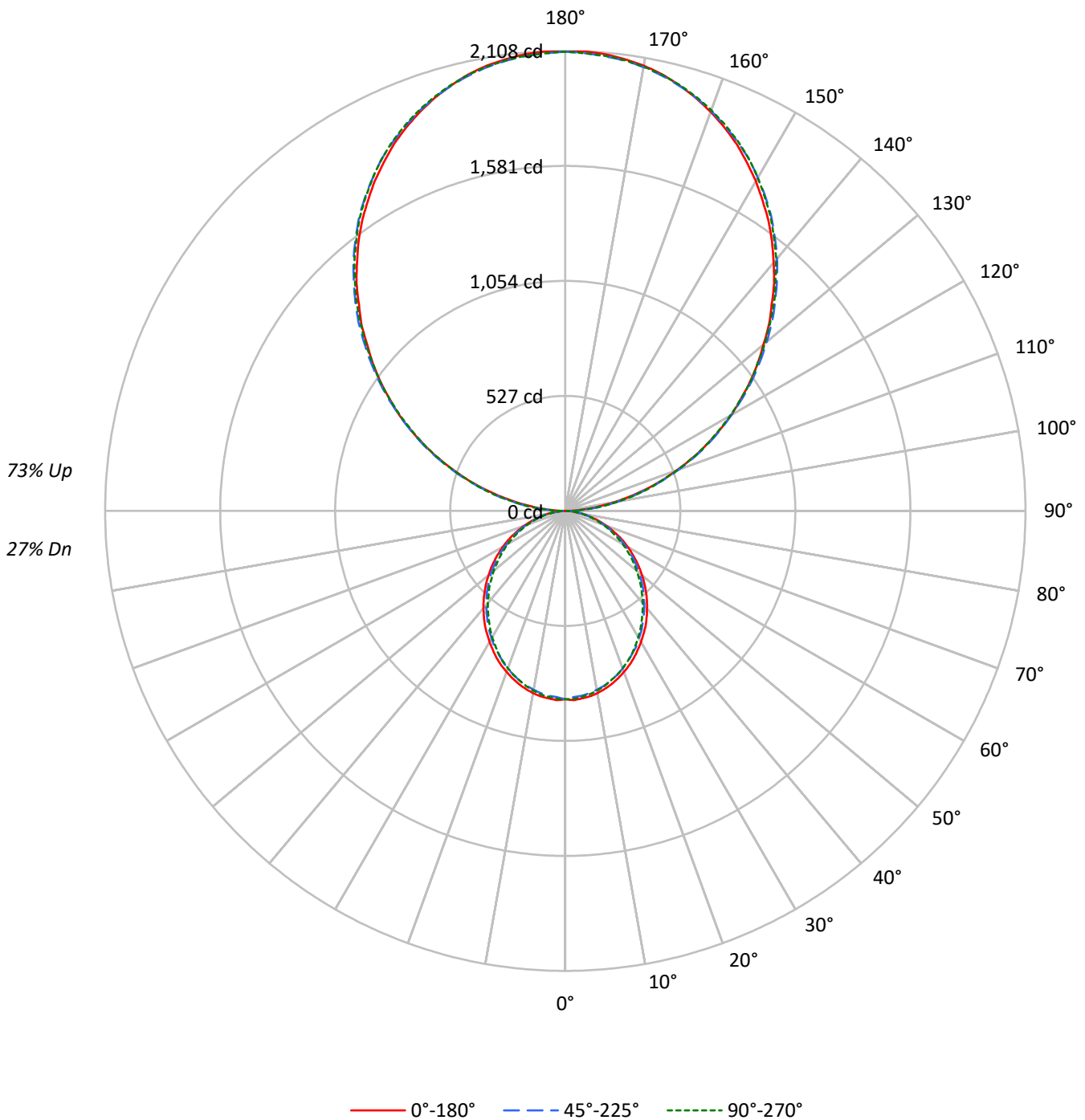
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8084.6 lumens  
Efficiency: N/A  
Efficacy: 117.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')  
CIE Type: Semi-Indirect

Input Watts (W): 69  
Input Voltage (V): 120  
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

TEST NUMBER: P911048  
CATALOG NUMBER: DFN2DIP-PN2F0-020D060US850-FLLFLL

### Luminous Intensity Polar Plot







TEST NUMBER: P911048

CATALOG NUMBER: DFN2DIP-PN2F0-020D060US850-FLLFLL

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.2	1.0
10°-20°	228.6	2.8
20°-30°	335.9	4.2
30°-40°	390.1	4.8
40°-50°	389.6	4.8
50°-60°	339.7	4.2
60°-70°	251.1	3.1
70°-80°	142.1	1.8
80°-90°	43.5	0.5
90°-100°	130.2	1.6
100°-110°	413.7	5.1
110°-120°	708.0	8.8
120°-130°	931.2	11.5
130°-140°	1045.3	12.9
140°-150°	1025.0	12.7
150°-160°	859.8	10.6
160°-170°	570.2	7.1
170°-180°	199.3	2.5
0°-30°	645.7	8.0
0°-40°	1035.8	12.8
0°-60°	1765.1	21.8
0°-90°	2201.8	27.2
90°-120°	1252.0	15.5
90°-150°	4253.5	52.6
90°-180°	5883.0	72.8
0°-180°	8084.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	863	863	863	863	863	
5°	863	860	851	857	856	82
15°	822	817	806	809	805	231
25°	744	737	723	724	723	342
35°	642	633	620	615	611	401
45°	522	516	504	495	491	403
55°	395	390	380	370	366	353
65°	266	261	253	246	242	263
75°	139	138	134	129	130	149
85°	34	33	32	30	29	38
90°	2	23	62	58	60	8
95°	93	110	114	114	110	103
105°	382	387	391	394	394	403
115°	710	721	718	716	710	703
125°	1034	1049	1044	1039	1037	924
135°	1337	1356	1360	1358	1353	1033
145°	1623	1636	1646	1648	1641	1014
155°	1856	1861	1866	1875	1870	854
165°	2019	2017	2017	2030	2021	569
175°	2101	2096	2092	2104	2094	200
180°	2104	2104	2104	2104	2104	



TEST NUMBER: P911048

CATALOG NUMBER: DFN2DIP-PN2F0-020D060US850-FLLFLL

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	863.0	863.0	863.0	863.0	863.0
2.5°	868.0	863.9	854.7	863.0	861.5
5°	863.0	859.8	850.6	857.3	855.6
7.5°	857.3	852.3	843.2	849.8	848.2
10°	848.2	842.4	832.4	839.0	836.5
12.5°	835.6	830.8	820.8	824.9	823.2
15°	821.5	816.7	805.8	809.1	805.0
17.5°	804.1	799.3	788.4	792.5	788.4
20°	785.1	780.1	768.4	771.0	767.6
22.5°	766.0	758.6	747.7	747.7	746.0
25°	743.6	736.9	722.8	724.4	722.8
27.5°	718.6	712.9	702.1	699.7	695.5
30°	693.8	687.1	674.7	672.3	668.8
32.5°	667.2	662.3	649.0	644.0	640.7
35°	641.6	633.2	619.9	614.9	610.7
37.5°	612.5	605.0	591.7	585.9	581.7
40°	582.6	575.9	562.6	555.3	551.8
42.5°	553.5	546.8	533.7	525.3	520.3
45°	522.0	516.2	503.7	494.6	491.3
47.5°	491.3	485.5	472.2	463.0	458.1
50°	458.9	454.8	443.2	431.5	427.4
52.5°	427.4	421.5	410.8	401.7	395.9
55°	395.0	390.0	380.1	370.2	366.0
57.5°	362.6	358.5	347.7	337.8	334.4
60°	330.3	327.0	315.4	306.2	303.8
62.5°	298.8	292.9	284.7	276.4	273.0
65°	266.4	261.4	253.2	245.6	241.5
67.5°	233.2	229.0	221.6	215.8	212.5
70°	202.5	199.2	191.6	185.9	182.7
72.5°	171.0	167.7	163.5	157.7	155.3
75°	139.4	137.8	133.5	128.6	130.3
77.5°	111.2	107.9	106.1	103.7	101.3
80°	83.1	82.2	80.5	78.0	76.3
82.5°	56.4	56.4	55.7	52.3	52.3
85°	33.9	33.2	32.4	29.8	29.1
87.5°	15.0	13.3	11.6	9.2	8.3
90°	1.9	22.8	62.2	58.3	60.2
92.5°	39.4	53.3	55.2	57.1	57.1
95°	92.6	110.3	113.6	113.6	110.3
97.5°	154.2	170.7	177.7	177.7	177.7
100°	225.2	239.8	244.9	244.9	243.0
102.5°	300.1	310.9	317.8	319.7	317.8
105°	381.9	387.0	390.8	394.0	394.0
107.5°	463.1	470.8	470.8	472.0	463.1
110°	541.9	551.9	551.9	551.9	546.8



TEST NUMBER: P911048

CATALOG NUMBER: DFN2DIP-PN2F0-020D060US850-FLLFLL

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	626.8	637.6	635.7	630.6	626.8
115°	710.5	720.7	717.5	715.6	710.5
117.5°	793.7	807.7	798.7	793.7	788.6
120°	877.4	891.4	877.4	877.4	871.7
122.5°	953.5	971.3	962.4	957.4	953.5
125°	1033.5	1049.3	1044.2	1038.6	1036.7
127.5°	1111.6	1131.2	1124.2	1116.7	1111.6
130°	1184.5	1207.4	1204.2	1200.4	1193.4
132.5°	1266.4	1284.1	1285.3	1276.5	1271.4
135°	1336.8	1356.4	1360.2	1358.3	1353.2
137.5°	1415.4	1431.3	1434.5	1433.2	1425.6
140°	1484.6	1500.5	1509.3	1509.3	1502.4
142.5°	1555.6	1571.5	1576.6	1578.4	1571.5
145°	1622.9	1635.6	1645.8	1647.6	1640.7
147.5°	1683.1	1699.0	1706.6	1709.7	1702.8
150°	1745.3	1756.1	1763.1	1768.7	1763.1
152.5°	1800.5	1811.3	1820.2	1827.2	1820.2
155°	1855.7	1860.8	1866.4	1875.4	1869.7
157.5°	1903.3	1907.1	1910.3	1923.0	1914.1
160°	1945.9	1949.6	1951.5	1962.3	1954.7
162.5°	1985.1	1985.1	1987.0	1999.1	1990.2
165°	2018.7	2016.8	2016.8	2029.6	2020.7
167.5°	2049.2	2043.6	2043.6	2056.2	2047.3
170°	2072.1	2067.0	2065.1	2077.7	2067.0
172.5°	2087.9	2082.8	2080.9	2093.6	2082.8
175°	2100.6	2095.6	2091.7	2104.4	2093.6
177.5°	2107.5	2102.6	2098.7	2109.4	2098.7
180°	2104.4	2104.4	2104.4	2104.4	2104.4



TEST NUMBER: P911048  
 CATALOG NUMBER: DFN2DIP-PN2F0-020D060US850-FLLFLL

**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	6.72	7.41	7.85	8.53	10.09	6.28	6.97	7.41	8.09	9.66
	3H	8.34	8.96	9.48	10.09	11.67	7.87	8.48	9.00	9.61	11.19
	4H	8.91	9.50	10.06	10.63	12.21	8.43	9.02	9.58	10.15	11.73
	6H	9.29	9.82	10.44	10.96	12.55	8.80	9.34	9.96	10.47	12.07
	8H	9.38	9.89	10.54	11.04	12.63	8.89	9.40	10.05	10.55	12.14
	12H	9.41	9.90	10.58	11.04	12.65	8.92	9.41	10.08	10.55	12.16
4H	2H	7.15	7.73	8.30	8.86	10.45	6.80	7.38	7.95	8.52	10.10
	3H	8.97	9.46	10.13	10.62	12.22	8.57	9.06	9.74	10.22	11.82
	4H	9.66	10.11	10.83	11.26	12.88	9.25	9.70	10.41	10.85	12.46
	6H	10.15	10.54	11.32	11.70	13.31	9.73	10.12	10.90	11.28	12.89
	8H	10.29	10.65	11.45	11.81	13.43	9.86	10.22	11.03	11.38	13.00
	12H	10.34	10.67	11.53	11.84	13.47	9.91	10.23	11.09	11.41	13.03
8H	4H	9.84	10.20	11.00	11.36	12.98	9.47	9.83	10.64	10.99	12.61
	6H	10.44	10.73	11.62	11.93	13.55	10.06	10.36	11.25	11.56	13.18
	8H	10.64	10.90	11.83	12.08	13.72	10.26	10.52	11.45	11.70	13.34
	12H	10.75	10.98	11.95	12.16	13.83	10.35	10.58	11.55	11.76	13.43
12H	4H	9.81	10.14	10.99	11.31	12.93	9.45	9.78	10.63	10.95	12.57
	6H	10.46	10.72	11.65	11.90	13.54	10.10	10.36	11.29	11.54	13.17
	8H	10.68	10.90	11.87	12.08	13.75	10.31	10.54	11.50	11.71	13.38