

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: P911088

Luminaire Tested: DFN2DIP-PN2F0-040D060US850-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P911088
REPORT IS A COMBINATION OF REPORTS P899505 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-040D060US850-FLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

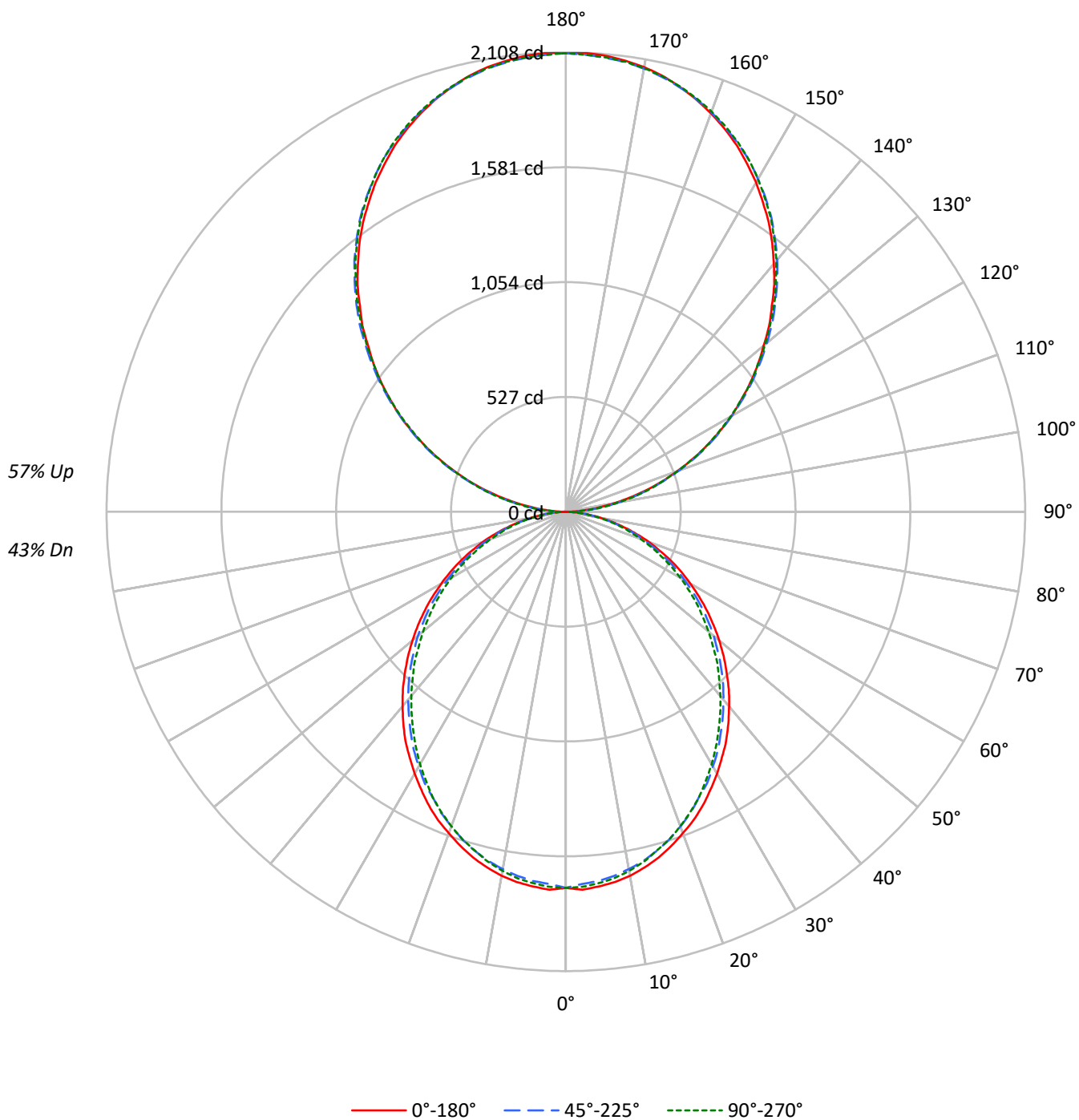
Lumens per Lamp: N/A
Luminaire Lumens: 10280.4 lumens
Efficiency: N/A
Efficacy: 111.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 91.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9613
Total Harmonic Distortion (THDi): 0.083
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P911088

CATALOG NUMBER: DFN2DIP-PN2F0-040D060US850-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P911088

CATALOG NUMBER: DFN2DIP-PN2F0-040D060US850-FLLFL

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	96	96	96	96	79	79	79	64	64	64	49	49	49
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	44	43	42
2	88	80	74	69	80	73	68	64	61	57	54	49	47	44	38	37	35
3	80	70	63	57	73	65	58	53	54	49	45	44	40	37	34	32	30
4	73	62	55	49	66	57	50	45	48	43	39	39	35	32	30	28	26
5	67	56	47	42	61	51	44	39	43	37	33	35	31	28	27	25	22
6	62	50	42	36	56	46	39	34	38	33	29	31	27	24	25	22	20
7	57	45	37	31	52	41	34	29	35	29	25	29	24	21	23	20	18
8	53	41	33	28	48	38	31	26	32	26	23	26	22	19	21	18	16
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14
10	46	34	27	22	42	31	25	21	27	22	18	22	18	15	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3738	3738	3738
5°	3738	3678	3706
10°	3702	3621	3650
15°	3642	3553	3566
20°	3562	3463	3481
25°	3483	3356	3382
30°	3385	3255	3259
35°	3291	3139	3129
40°	3178	3020	3005
45°	3064	2902	2877
50°	2939	2776	2730
55°	2808	2632	2594
60°	2660	2462	2437
65°	2497	2284	2254
70°	2290	2067	2053
75°	2006	1808	1861
80°	1659	1476	1511
85°	1127	933	946

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3064 cd/sqm

TEST NUMBER: P911088

CATALOG NUMBER: DFN2DIP-PN2F0-040D060US850-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.5	1.6
10°-20°	457.1	4.4
20°-30°	671.7	6.5
30°-40°	780.2	7.6
40°-50°	779.2	7.6
50°-60°	679.5	6.6
60°-70°	502.3	4.9
70°-80°	284.2	2.8
80°-90°	81.0	0.8
90°-100°	130.2	1.3
100°-110°	413.7	4.0
110°-120°	708.0	6.9
120°-130°	931.2	9.1
130°-140°	1045.3	10.2
140°-150°	1025.0	10.0
150°-160°	859.8	8.4
160°-170°	570.2	5.5
170°-180°	199.3	1.9
0°-30°	1291.3	12.6
0°-40°	2071.5	20.1
0°-60°	3530.2	34.3
0°-90°	4397.6	42.8
90°-120°	1252.0	12.2
90°-150°	4253.5	41.4
90°-180°	5883.0	57.2
0°-180°	10280.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1726	1726	1726	1726	1726	
5°	1726	1720	1701	1714	1711	164
15°	1643	1633	1612	1618	1610	463
25°	1487	1474	1446	1449	1446	684
35°	1283	1266	1240	1230	1222	801
45°	1044	1032	1007	989	983	806
55°	790	780	760	740	732	706
65°	533	523	506	491	483	527
75°	279	276	267	257	261	298
85°	68	66	65	60	58	76
90°	2	23	62	58	60	10
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: P911088

CATALOG NUMBER: DFN2DIP-PN2F0-040D060US850-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1726.0	1726.0	1726.0	1726.0	1726.0
2.5°	1736.1	1727.8	1709.5	1726.0	1722.9
5°	1726.0	1719.5	1701.2	1714.4	1711.3
7.5°	1714.4	1704.5	1686.2	1699.7	1696.3
10°	1696.3	1684.7	1664.8	1678.0	1673.0
12.5°	1671.3	1661.4	1641.5	1649.9	1646.4
15°	1643.1	1633.2	1611.6	1618.3	1610.0
17.5°	1608.3	1598.4	1576.8	1585.0	1576.8
20°	1570.0	1560.1	1537.0	1541.8	1535.4
22.5°	1532.0	1517.0	1495.4	1495.4	1492.0
25°	1487.1	1473.9	1445.7	1448.9	1445.7
27.5°	1437.3	1425.6	1404.2	1399.2	1391.0
30°	1387.6	1374.3	1349.4	1344.4	1337.8
32.5°	1334.5	1324.6	1298.0	1288.0	1281.2
35°	1283.0	1266.5	1239.9	1229.9	1221.6
37.5°	1224.9	1209.9	1183.3	1171.8	1163.5
40°	1165.2	1151.8	1125.2	1110.4	1103.8
42.5°	1107.1	1093.7	1067.3	1050.6	1040.7
45°	1044.0	1032.5	1007.4	989.3	982.6
47.5°	982.6	970.9	944.4	926.1	916.3
50°	917.8	909.5	886.3	863.0	854.7
52.5°	854.7	843.2	821.7	803.4	791.7
55°	790.2	780.1	760.2	740.3	732.1
57.5°	725.3	717.1	695.3	675.5	668.8
60°	660.5	654.0	630.8	612.5	607.5
62.5°	597.5	585.9	569.4	552.7	546.1
65°	532.9	522.8	506.3	491.3	483.1
67.5°	466.4	458.0	443.3	431.6	425.0
70°	405.0	398.4	383.4	371.7	365.2
72.5°	342.0	335.3	327.0	315.4	310.4
75°	278.8	275.6	267.2	257.3	260.6
77.5°	222.4	215.7	212.4	207.4	202.5
80°	166.0	164.2	160.9	156.0	152.7
82.5°	112.9	112.9	111.3	104.6	104.6
85°	68.0	66.4	64.8	59.7	58.1
87.5°	29.9	26.6	23.3	18.3	16.5
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: P911088

CATALOG NUMBER: DFN2DIP-PN2F0-040D060US850-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: P911088

CATALOG NUMBER: DFN2DIP-PN2F0-040D060US850-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	11.03	11.83	12.05	12.85	14.22	10.59	11.39	11.61	12.42	13.79
	3H	12.66	13.38	13.69	14.42	15.81	12.18	12.90	13.21	13.94	15.33
	4H	13.24	13.91	14.27	14.95	16.35	12.75	13.43	13.79	14.47	15.87
	6H	13.62	14.24	14.67	15.28	16.69	13.13	13.76	14.18	14.80	16.21
	8H	13.71	14.31	14.77	15.36	16.77	13.22	13.82	14.28	14.88	16.28
	12H	13.75	14.32	14.81	15.37	16.80	13.26	13.82	14.32	14.87	16.30
4H	2H	11.47	12.15	12.52	13.19	14.59	11.12	11.80	12.17	12.84	14.24
	3H	13.31	13.88	14.36	14.94	16.35	12.91	13.48	13.96	14.54	15.95
	4H	14.00	14.52	15.06	15.58	17.01	13.59	14.11	14.65	15.17	16.60
	6H	14.50	14.94	15.57	16.02	17.45	14.08	14.52	15.15	15.60	17.03
	8H	14.63	15.05	15.70	16.12	17.57	14.21	14.63	15.28	15.70	17.14
	12H	14.70	15.07	15.78	16.16	17.61	14.26	14.64	15.35	15.73	17.17
8H	4H	14.18	14.60	15.26	15.67	17.12	13.82	14.23	14.89	15.31	16.75
	6H	14.79	15.13	15.88	16.25	17.69	14.42	14.76	15.51	15.87	17.31
	8H	14.99	15.30	16.09	16.39	17.85	14.61	14.92	15.71	16.01	17.47
	12H	15.11	15.38	16.21	16.47	17.97	14.71	14.98	15.82	16.07	17.57
12H	4H	14.17	14.54	15.25	15.63	17.08	13.80	14.18	14.89	15.27	16.72
	6H	14.81	15.12	15.91	16.21	17.67	14.45	14.75	15.55	15.85	17.31
	8H	15.04	15.30	16.14	16.40	17.89	14.67	14.93	15.77	16.03	17.53

END OF REPORT