

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: P929991

Luminaire Tested: DFN2DS-4P4F0-060DS850-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929991
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P4F0-060DS850-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

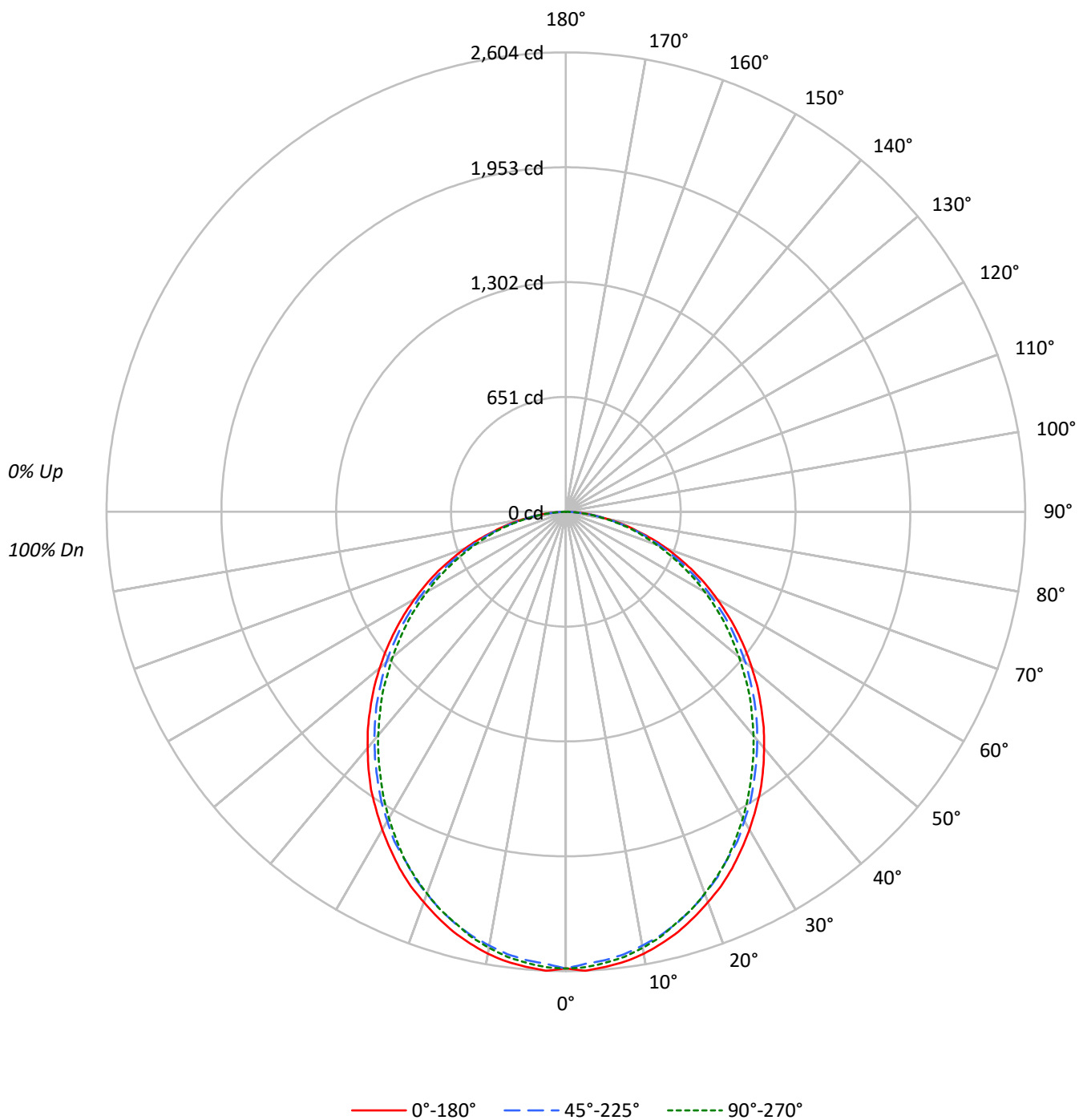
Lumens per Lamp: N/A
Luminaire Lumens: 6587.4 lumens
Efficiency: N/A
Efficacy: 106.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 62
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P929991

CATALOG NUMBER: DFN2DS-4P4F0-060DS850-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P929991

CATALOG NUMBER: DFN2DS-4P4F0-060DS850-FLL

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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1680	1680	1680
5°	1686	1662	1672
10°	1676	1645	1653
15°	1655	1624	1622
20°	1626	1592	1590
25°	1597	1552	1552
30°	1559	1516	1503
35°	1524	1473	1451
40°	1480	1429	1402
45°	1437	1386	1352
50°	1389	1342	1294
55°	1341	1290	1242
60°	1286	1228	1182
65°	1227	1166	1112
70°	1152	1091	1039
75°	1048	1004	980
80°	931	902	856
85°	758	723	649

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1437 cd/sqm

TEST NUMBER: P929991

CATALOG NUMBER: DFN2DS-4P4F0-060DS850-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	243.7	3.7
10°-20°	685.6	10.4
20°-30°	1007.6	15.3
30°-40°	1170.3	17.8
40°-50°	1168.8	17.7
50°-60°	1019.2	15.5
60°-70°	753.4	11.4
70°-80°	426.3	6.5
80°-90°	112.5	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1937.0	29.4
0°-40°	3107.2	47.2
0°-60°	5295.3	80.4
0°-90°	6587.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6587.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2589	2589	2589	2589	2589	
5°	2589	2579	2552	2572	2567	246
15°	2465	2450	2417	2428	2415	694
25°	2231	2211	2168	2173	2168	1026
35°	1925	1900	1860	1845	1832	1202
45°	1566	1549	1511	1484	1474	1209
55°	1185	1170	1140	1110	1098	1060
65°	799	784	759	737	724	790
75°	418	413	401	386	391	446
85°	102	100	97	90	87	120
90°	0	0	0	0	0	

TEST NUMBER: P929991

CATALOG NUMBER: DFN2DS-4P4F0-060DS850-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2589.1	2589.1	2589.1	2589.1	2589.1
2.5°	2604.2	2591.7	2564.2	2589.1	2584.3
5°	2589.1	2579.3	2551.8	2571.7	2566.9
7.5°	2571.7	2556.9	2529.4	2549.5	2544.5
10°	2544.5	2527.1	2497.1	2517.0	2509.6
12.5°	2507.0	2492.1	2462.3	2474.7	2469.7
15°	2464.6	2449.9	2417.4	2427.5	2415.1
17.5°	2412.4	2397.7	2365.2	2377.5	2365.2
20°	2355.1	2340.3	2305.4	2312.8	2303.1
22.5°	2298.1	2275.6	2243.1	2243.1	2238.1
25°	2230.6	2210.9	2168.5	2173.3	2168.5
27.5°	2155.9	2138.5	2106.2	2098.9	2086.5
30°	2081.5	2061.3	2024.1	2016.7	2006.6
32.5°	2001.6	1986.9	1947.0	1931.9	1921.9
35°	1924.6	1899.7	1859.8	1844.7	1832.3
37.5°	1837.4	1814.9	1775.1	1757.5	1745.1
40°	1747.8	1727.7	1687.9	1665.7	1655.6
42.5°	1660.6	1640.5	1601.0	1575.9	1561.0
45°	1566.1	1548.6	1511.1	1484.0	1473.9
47.5°	1473.9	1456.4	1416.6	1389.1	1374.3
50°	1376.7	1364.3	1329.5	1294.5	1282.1
52.5°	1282.1	1264.7	1232.4	1205.0	1187.6
55°	1185.2	1170.1	1140.3	1110.4	1098.0
57.5°	1088.0	1075.6	1043.1	1013.3	1003.2
60°	990.8	981.0	946.2	918.7	911.3
62.5°	896.2	878.8	853.9	829.1	819.1
65°	799.3	784.3	759.4	736.9	724.5
67.5°	699.7	687.0	664.8	647.4	637.3
70°	607.5	597.5	575.0	557.6	547.8
72.5°	512.9	502.9	490.5	473.1	465.7
75°	418.1	413.4	400.7	385.9	390.9
77.5°	333.6	323.6	318.5	311.2	303.8
80°	249.1	246.4	241.4	234.0	229.0
82.5°	169.3	169.3	166.9	156.9	156.9
85°	101.9	99.6	97.1	89.5	87.2
87.5°	44.9	39.9	34.8	27.5	24.8
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P929991

CATALOG NUMBER: DFN2DS-4P4F0-060DS850-FLL

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	13.08	14.70	13.45	15.01	15.32	12.64	14.25	13.01	14.57	14.88
	3H	14.83	16.29	15.21	16.62	16.98	14.34	15.80	14.72	16.12	16.48
	4H	15.48	16.85	15.88	17.20	17.57	14.99	16.35	15.38	16.70	17.08
	6H	15.95	17.22	16.36	17.58	17.97	15.45	16.72	15.86	17.08	17.47
	8H	16.09	17.30	16.52	17.69	18.09	15.59	16.80	16.01	17.19	17.59
	12H	16.18	17.34	16.61	17.72	18.15	15.67	16.83	16.10	17.21	17.64
4H	2H	13.64	15.01	14.04	15.36	15.74	13.29	14.66	13.69	15.01	15.39
	3H	15.62	16.77	16.03	17.16	17.56	15.21	16.36	15.62	16.76	17.16
	4H	16.40	17.43	16.83	17.85	18.28	15.97	17.01	16.40	17.42	17.86
	6H	16.99	17.90	17.45	18.34	18.79	16.56	17.47	17.01	17.91	18.36
	8H	17.18	18.03	17.64	18.47	18.94	16.74	17.59	17.20	18.03	18.50
	12H	17.31	18.07	17.79	18.55	19.02	16.86	17.62	17.34	18.10	18.57
8H	4H	16.67	17.52	17.13	17.96	18.42	16.30	17.14	16.76	17.58	18.05
	6H	17.38	18.09	17.88	18.58	19.05	17.00	17.71	17.50	18.19	18.67
	8H	17.64	18.27	18.15	18.78	19.27	17.25	17.88	17.76	18.39	18.88
	12H	17.84	18.40	18.35	18.89	19.45	17.43	17.99	17.94	18.48	19.04
12H	4H	16.70	17.46	17.18	17.93	18.40	16.33	17.09	16.81	17.57	18.04
	6H	17.43	18.06	17.94	18.57	19.05	17.06	17.69	17.57	18.20	18.69
	8H	17.74	18.30	18.25	18.79	19.35	17.37	17.92	17.87	18.41	18.97