

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: P931071

Luminaire Tested: DFN2DS-SQ4F0-060DS850-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931071
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-SQ4F0-060DS850-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

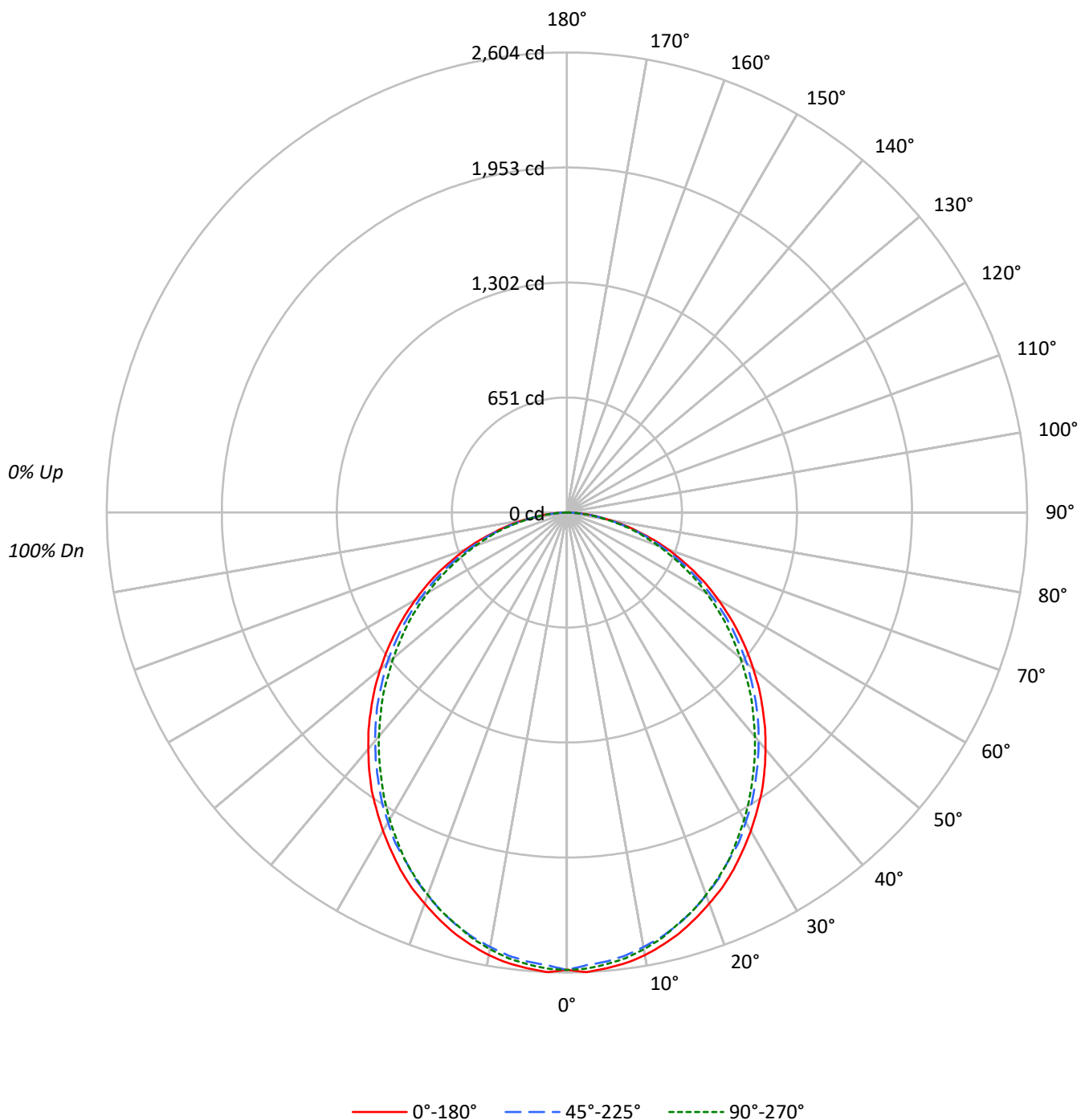
Lumens per Lamp: N/A
Luminaire Lumens: 6587.4 lumens
Efficiency: N/A
Efficacy: 113.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 57.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
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
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°	1817	1817	1817
5°	1824	1797	1808
10°	1813	1779	1788
15°	1790	1756	1754
20°	1759	1721	1720
25°	1727	1679	1679
30°	1686	1640	1626
35°	1649	1593	1570
40°	1601	1546	1516
45°	1554	1499	1463
50°	1503	1451	1400
55°	1450	1395	1343
60°	1390	1328	1279
65°	1327	1261	1203
70°	1246	1180	1124
75°	1133	1086	1060
80°	1007	975	925
85°	820	782	702

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1554 cd/sqm

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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	

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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

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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	13.36	14.97	13.72	15.28	15.60	12.91	14.52	13.28	14.84	15.15
	3H	15.11	16.56	15.48	16.89	17.25	14.62	16.07	14.99	16.40	16.76
	4H	15.75	17.12	16.15	17.47	17.85	15.26	16.63	15.66	16.98	17.35
	6H	16.22	17.49	16.63	17.86	18.25	15.72	16.99	16.13	17.35	17.75
	8H	16.37	17.58	16.79	17.97	18.36	15.86	17.07	16.29	17.46	17.86
	12H	16.46	17.62	16.89	18.00	18.43	15.94	17.10	16.37	17.49	17.91
4H	2H	13.92	15.29	14.32	15.63	16.01	13.56	14.93	13.96	15.28	15.66
	3H	15.89	17.04	16.30	17.44	17.84	15.49	16.63	15.90	17.03	17.43
	4H	16.67	17.70	17.10	18.12	18.55	16.25	17.28	16.68	17.69	18.13
	6H	17.27	18.17	17.72	18.61	19.07	16.83	17.74	17.29	18.18	18.63
	8H	17.45	18.30	17.92	18.74	19.21	17.02	17.86	17.48	18.31	18.77
	12H	17.59	18.35	18.07	18.82	19.29	17.13	17.89	17.61	18.37	18.84
8H	4H	16.94	17.79	17.40	18.23	18.70	16.57	17.41	17.03	17.86	18.32
	6H	17.66	18.36	18.15	18.85	19.32	17.27	17.98	17.77	18.47	18.94
	8H	17.92	18.55	18.43	19.05	19.54	17.52	18.15	18.03	18.66	19.15
	12H	18.12	18.67	18.62	19.16	19.73	17.70	18.26	18.21	18.75	19.31
12H	4H	16.97	17.73	17.45	18.20	18.67	16.60	17.36	17.08	17.84	18.31
	6H	17.70	18.33	18.21	18.84	19.33	17.33	17.97	17.84	18.47	18.96
	8H	18.02	18.57	18.52	19.06	19.63	17.64	18.20	18.14	18.69	19.25