

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: P930855

Luminaire Tested: DFN2DS-SQ2F0-060DS850-FLL

Issue Date: 11/20/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P930855  
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-SQ2F0-060DS850-FLL  
Description: 2 foot, Square Define Geo, with Direct Frosted Lens  
Light Source: -  
Ballast/Driver: -

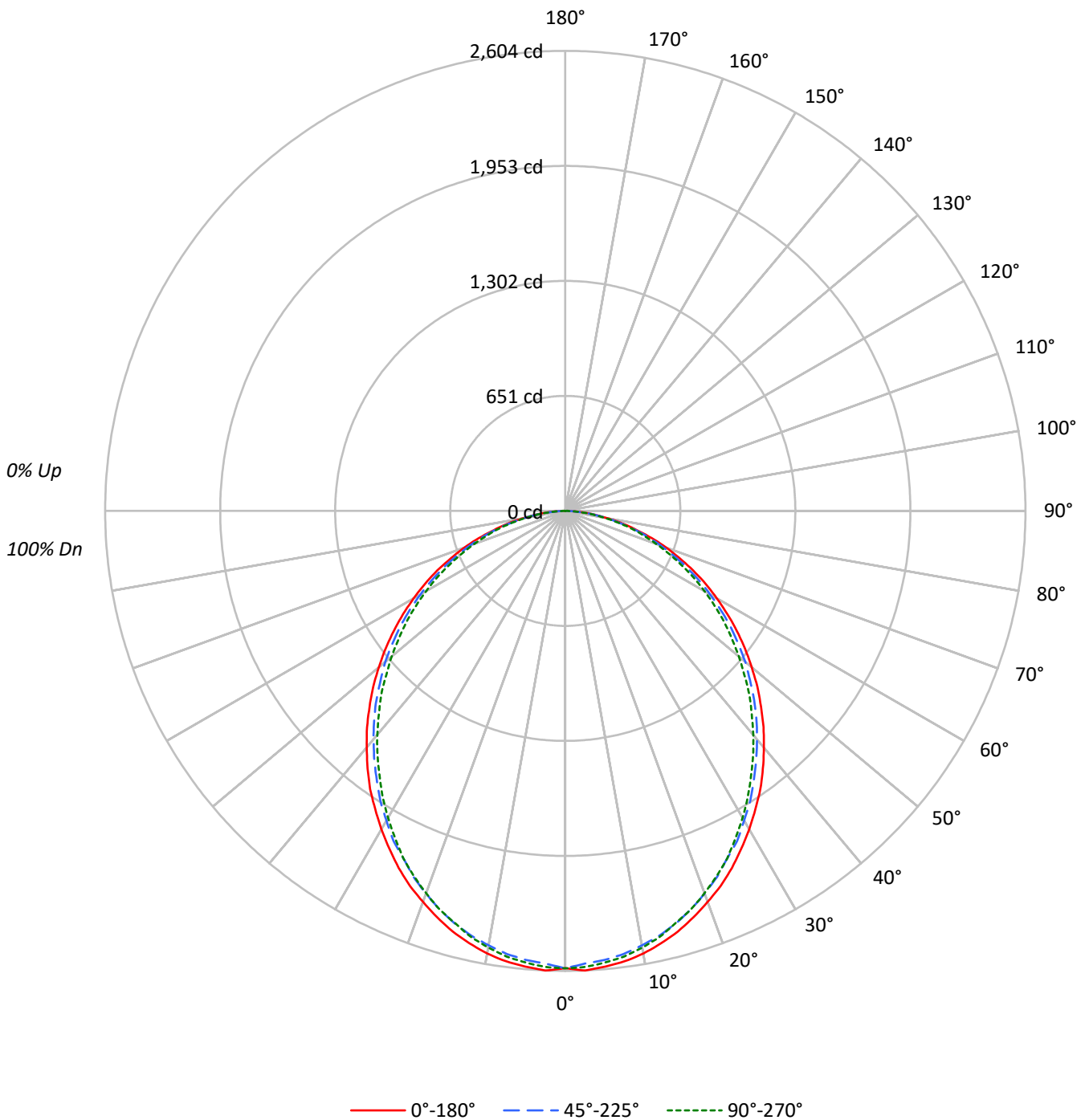
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6587.4 lumens  
Efficiency: N/A  
Efficacy: 112.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 2.21' x L: 2.21' x H: 0')  
CIE Type: Direct

Input Watts (W): 58.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.9781  
Total Harmonic Distortion (THDi): 0.075  
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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	73	73	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	62	62	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	54	54	54	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	47	47	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	41	41	41	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	37	37	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	33	33	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	30	30	30	28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	27	27	27	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5693	5693	5693
5°	5715	5633	5666
10°	5681	5576	5603
15°	5611	5503	5498
20°	5511	5395	5389
25°	5412	5261	5261
30°	5285	5139	5095
35°	5166	4992	4919
40°	5017	4845	4752
45°	4870	4699	4583
50°	4710	4548	4386
55°	4544	4372	4209
60°	4357	4161	4008
65°	4159	3951	3770
70°	3906	3697	3522
75°	3552	3404	3321
80°	3154	3057	2900
85°	2571	2450	2200

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4870 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	17.33	18.94	17.69	19.25	19.56	16.88	18.49	17.25	18.81	19.12
	3H	19.08	20.53	19.45	20.86	21.22	18.58	20.04	18.96	20.37	20.73
	4H	19.72	21.09	20.12	21.44	21.81	19.23	20.60	19.63	20.94	21.32
	6H	20.19	21.46	20.60	21.82	22.22	19.69	20.96	20.10	21.32	21.71
	8H	20.33	21.54	20.76	21.93	22.33	19.83	21.04	20.26	21.43	21.83
	12H	20.42	21.58	20.85	21.97	22.39	19.91	21.07	20.34	21.45	21.88
4H	2H	17.89	19.26	18.28	19.60	19.98	17.53	18.90	17.93	19.25	19.63
	3H	19.86	21.01	20.27	21.40	21.81	19.45	20.60	19.86	21.00	21.40
	4H	20.64	21.67	21.07	22.09	22.52	20.21	21.25	20.64	21.66	22.10
	6H	21.23	22.14	21.69	22.58	23.04	20.80	21.71	21.26	22.15	22.60
	8H	21.42	22.27	21.88	22.71	23.18	20.99	21.83	21.45	22.27	22.74
	12H	21.56	22.32	22.04	22.79	23.26	21.10	21.86	21.58	22.34	22.81
8H	4H	20.91	21.76	21.37	22.20	22.67	20.54	21.38	21.00	21.83	22.29
	6H	21.63	22.33	22.12	22.82	23.29	21.24	21.95	21.74	22.43	22.91
	8H	21.88	22.51	22.39	23.02	23.51	21.49	22.12	22.00	22.63	23.12
	12H	22.08	22.64	22.59	23.13	23.69	21.67	22.23	22.18	22.72	23.28
12H	4H	20.94	21.70	21.42	22.17	22.64	20.57	21.33	21.05	21.81	22.28
	6H	21.67	22.30	22.18	22.81	23.30	21.30	21.93	21.81	22.44	22.93
	8H	21.98	22.54	22.49	23.03	23.59	21.61	22.16	22.11	22.65	23.22