

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: P930895

Luminaire Tested: DFN2DS-SQ2F0-080DS930-FLL

Issue Date: 11/20/2024

**Test Information**

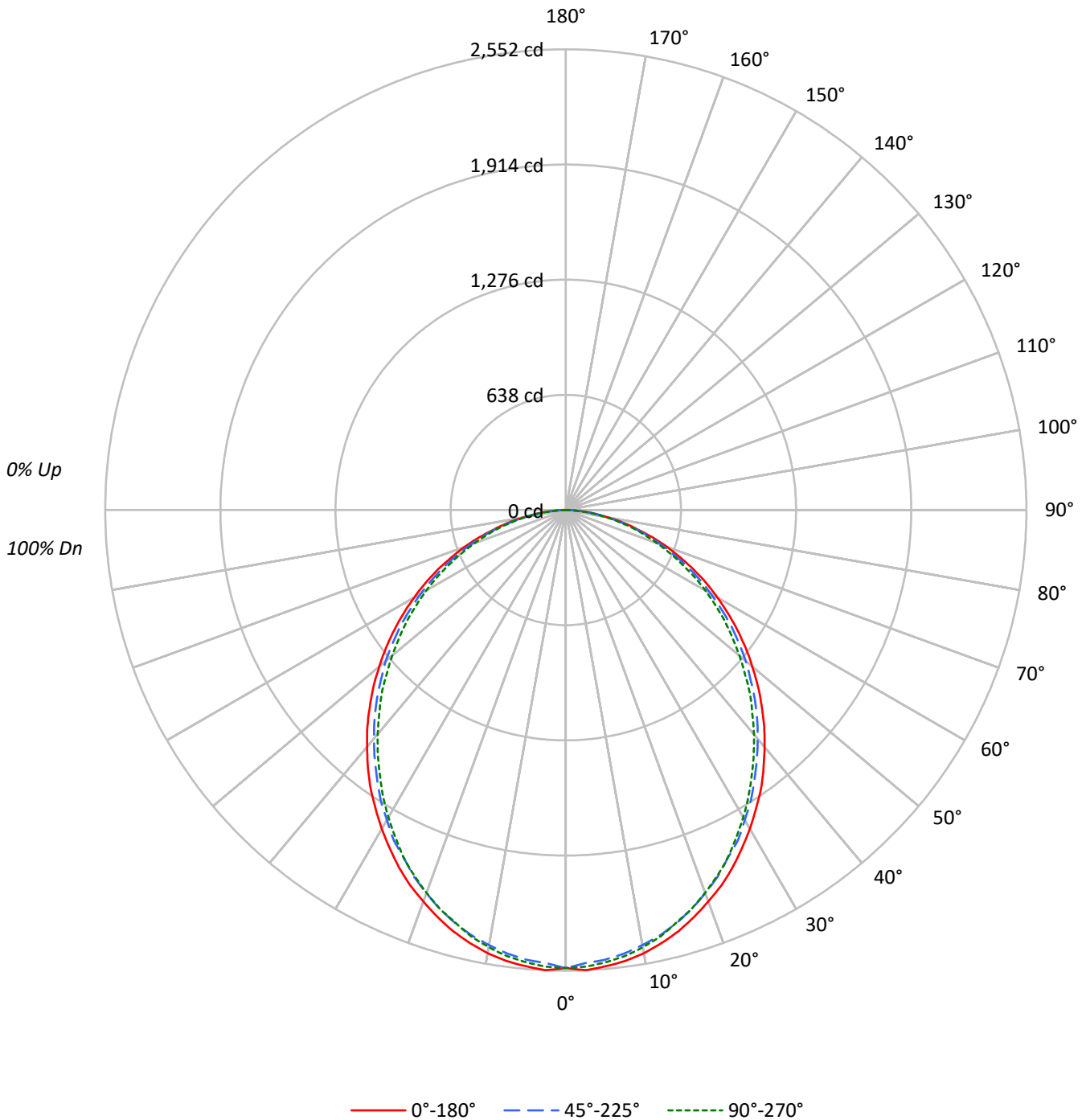
Test Method: LM-79-2019  
Report Number: P930895  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/20/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DS-SQ2F0-080DS930-FLL  
Description: 2 foot, Square Define Geo, with Direct Frosted Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6454.8 lumens  
Efficiency: N/A  
Efficacy: 78.1 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): 82.6  
Input Voltage (V):  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.9957  
Total Harmonic Distortion (THDi): 0.049  
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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84	84	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71	71	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60	60	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51	51	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45	45	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39	39	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35	35	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	31	31	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28	28	28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	26	26	26

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

	0°	45°	90°
0°	5578	5578	5578
5°	5600	5519	5552
10°	5567	5463	5491
15°	5498	5392	5387
20°	5400	5286	5281
25°	5303	5155	5155
30°	5178	5036	4993
35°	5062	4892	4819
40°	4916	4747	4657
45°	4772	4605	4491
50°	4615	4456	4298
55°	4452	4284	4125
60°	4269	4077	3927
65°	4075	3872	3694
70°	3827	3623	3451
75°	3481	3336	3254
80°	3091	2996	2842
85°	2520	2404	2155

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4772 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	238.8	3.7
10°-20°	671.8	10.4
20°-30°	987.3	15.3
30°-40°	1146.7	17.8
40°-50°	1145.3	17.7
50°-60°	998.7	15.5
60°-70°	738.2	11.4
70°-80°	417.7	6.5
80°-90°	110.2	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°	1898.0	29.4
0°-40°	3044.7	47.2
0°-60°	5188.6	80.4
0°-90°	6454.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6454.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2537	2537	2537	2537	2537	
5°	2537	2527	2500	2520	2515	241
15°	2415	2401	2369	2379	2366	680
25°	2186	2166	2125	2130	2125	1006
35°	1886	1862	1822	1808	1795	1178
45°	1535	1517	1481	1454	1444	1184
55°	1161	1146	1117	1088	1076	1038
65°	783	768	744	722	710	774
75°	410	405	393	378	383	437
85°	100	98	95	88	85	117
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2536.9	2536.9	2536.9	2536.9	2536.9
2.5°	2551.7	2539.5	2512.6	2536.9	2532.3
5°	2536.9	2527.4	2500.5	2519.9	2515.3
7.5°	2519.9	2505.4	2478.5	2498.1	2493.2
10°	2493.2	2476.1	2446.9	2466.3	2459.1
12.5°	2456.5	2442.0	2412.7	2424.9	2420.0
15°	2415.1	2400.6	2368.7	2378.6	2366.4
17.5°	2363.8	2349.3	2317.5	2329.7	2317.5
20°	2307.7	2293.2	2259.0	2266.3	2256.7
22.5°	2251.8	2229.8	2197.9	2197.9	2193.0
25°	2185.7	2166.4	2124.9	2129.6	2124.9
27.5°	2112.5	2095.4	2063.8	2056.6	2044.4
30°	2039.5	2019.8	1983.4	1976.1	1966.3
32.5°	1961.4	1946.9	1907.8	1893.0	1883.2
35°	1885.7	1861.5	1822.3	1807.6	1795.4
37.5°	1800.3	1778.3	1739.3	1722.2	1710.0
40°	1712.6	1692.9	1653.9	1632.1	1622.3
42.5°	1627.2	1607.5	1568.7	1544.1	1529.7
45°	1534.6	1517.4	1480.7	1454.0	1444.3
47.5°	1444.3	1427.1	1388.0	1361.1	1346.6
50°	1349.0	1336.8	1302.6	1268.5	1256.3
52.5°	1256.3	1239.2	1207.7	1180.8	1163.7
55°	1161.3	1146.5	1117.4	1088.1	1075.9
57.5°	1066.1	1054.0	1022.1	992.8	983.0
60°	970.8	961.3	927.1	900.2	892.9
62.5°	878.2	861.1	836.8	812.5	802.6
65°	783.2	768.5	744.1	722.1	709.9
67.5°	685.6	673.2	651.4	634.4	624.5
70°	595.3	585.4	563.5	546.4	536.8
72.5°	502.6	492.8	480.6	463.6	456.3
75°	409.7	405.1	392.7	378.2	383.0
77.5°	326.9	317.0	312.1	304.9	297.6
80°	244.1	241.5	236.6	229.3	224.4
82.5°	165.9	165.9	163.6	153.7	153.7
85°	99.9	97.6	95.3	87.8	85.4
87.5°	44.0	39.1	34.1	26.9	24.4
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	17.26	18.87	17.62	19.18	19.49	16.81	18.42	17.18	18.73	19.05
	3H	19.00	20.46	19.38	20.79	21.15	18.51	19.97	18.89	20.29	20.66
	4H	19.65	21.02	20.05	21.37	21.74	19.16	20.53	19.55	20.87	21.25
	6H	20.12	21.39	20.53	21.75	22.14	19.62	20.89	20.03	21.25	21.64
	8H	20.26	21.47	20.69	21.86	22.26	19.76	20.97	20.18	21.36	21.76
	12H	20.35	21.51	20.78	21.90	22.32	19.84	21.00	20.27	21.38	21.81
4H	2H	17.82	19.18	18.21	19.53	19.91	17.46	18.83	17.86	19.18	19.56
	3H	19.79	20.94	20.20	21.33	21.73	19.38	20.53	19.79	20.93	21.33
	4H	20.57	21.60	21.00	22.02	22.45	20.14	21.18	20.57	21.59	22.03
	6H	21.16	22.07	21.62	22.51	22.97	20.73	21.64	21.19	22.08	22.53
	8H	21.35	22.20	21.81	22.64	23.11	20.91	21.76	21.38	22.20	22.67
	12H	21.48	22.24	21.96	22.72	23.19	21.03	21.79	21.51	22.27	22.74
8H	4H	20.84	21.69	21.30	22.13	22.59	20.47	21.31	20.93	21.75	22.22
	6H	21.55	22.26	22.05	22.75	23.22	21.17	21.88	21.67	22.36	22.84
	8H	21.81	22.44	22.32	22.95	23.44	21.42	22.05	21.93	22.56	23.05
	12H	22.01	22.57	22.52	23.06	23.62	21.60	22.16	22.11	22.65	23.21
12H	4H	20.87	21.63	21.35	22.10	22.57	20.50	21.26	20.98	21.74	22.21
	6H	21.60	22.23	22.11	22.74	23.22	21.23	21.86	21.74	22.37	22.86
	8H	21.91	22.47	22.42	22.96	23.52	21.54	22.09	22.04	22.58	23.15