

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: P931172

Luminaire Tested: DFN2DS-SQ4F0-110DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931172
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ4F0-110DS950-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

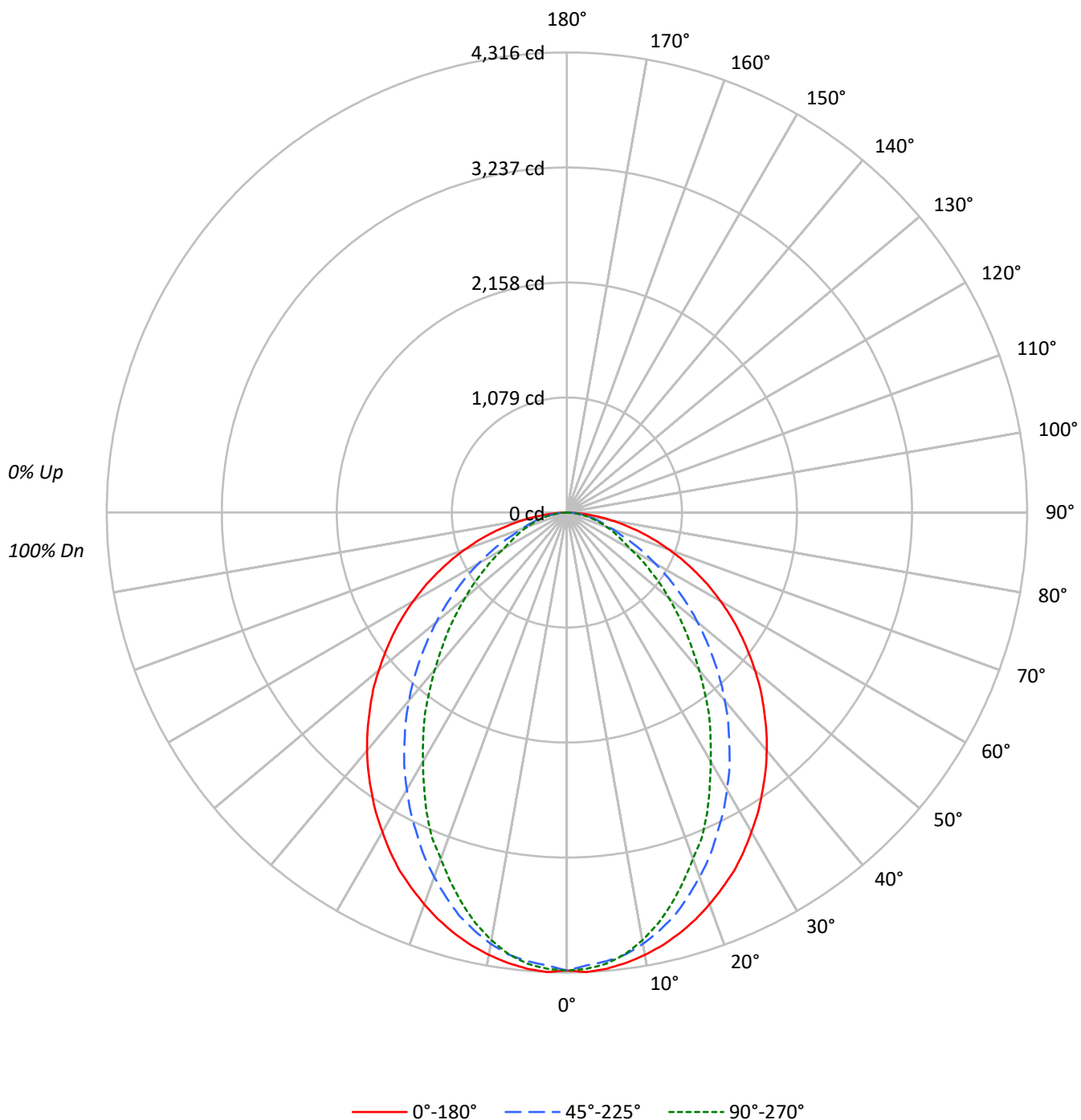
Lumens per Lamp: N/A
Luminaire Lumens: 8835.7 lumens
Efficiency: N/A
Efficacy: 78.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 113
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931172

CATALOG NUMBER: DFN2DS-SQ4F0-110DS950-RLL

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	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3015	3015	3015
5°	3026	2977	2993
10°	3003	2928	2903
15°	2968	2841	2759
20°	2921	2717	2581
25°	2872	2577	2408
30°	2804	2432	2186
35°	2738	2275	1991
40°	2671	2112	1766
45°	2593	1929	1563
50°	2513	1745	1363
55°	2430	1546	1170
60°	2335	1337	971
65°	2227	1123	884
70°	2098	925	813
75°	1939	843	759
80°	1712	753	692
85°	1345	594	594

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2593 cd/sqm

TEST NUMBER: P931172

CATALOG NUMBER: DFN2DS-SQ4F0-110DS950-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	402.6	4.6
10°-20°	1105.4	12.5
20°-30°	1551.9	17.6
30°-40°	1691.6	19.1
40°-50°	1554.8	17.6
50°-60°	1221.0	13.8
60°-70°	794.8	9.0
70°-80°	409.1	4.6
80°-90°	104.4	1.2
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°	3059.9	34.6
0°-40°	4751.5	53.8
0°-60°	7527.4	85.2
0°-90°	8835.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8835.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4296	4296	4296	4296	4296	
5°	4296	4277	4226	4261	4250	407
15°	4086	4043	3911	3838	3799	1151
25°	3709	3585	3328	3169	3110	1706
35°	3196	2998	2656	2411	2325	2000
45°	2613	2352	1944	1668	1575	2018
55°	1987	1683	1264	1030	957	1775
65°	1341	1026	676	544	532	1330
75°	715	443	311	284	280	757
85°	167	85	74	74	74	200
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-SQ4F0-110DS950-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4296.3	4296.3	4296.3	4296.3	4296.3
2.5°	4315.6	4296.3	4253.4	4292.6	4284.7
5°	4296.3	4276.9	4226.1	4261.2	4249.7
7.5°	4261.2	4238.0	4183.6	4198.9	4179.5
10°	4214.6	4187.3	4109.8	4097.8	4074.7
12.5°	4156.4	4121.3	4016.2	3993.0	3950.1
15°	4086.3	4043.4	3911.4	3837.6	3798.7
17.5°	4004.6	3942.4	3779.0	3693.5	3631.3
20°	3911.4	3833.4	3639.1	3542.1	3456.3
22.5°	3810.3	3720.7	3495.2	3363.2	3304.9
25°	3709.2	3584.7	3328.1	3168.9	3110.3
27.5°	3588.8	3456.3	3172.6	2989.8	2900.3
30°	3460.5	3312.4	3001.4	2803.3	2698.2
32.5°	3335.9	3156.9	2838.4	2605.0	2507.7
35°	3196.1	2997.6	2655.7	2410.7	2324.9
37.5°	3060.0	2845.9	2484.5	2215.9	2119.1
40°	2916.0	2682.9	2305.5	2029.5	1928.5
42.5°	2768.3	2519.6	2126.9	1839.0	1742.0
45°	2612.8	2352.1	1944.1	1667.7	1574.6
47.5°	2465.1	2189.2	1769.2	1492.8	1407.5
50°	2301.7	2025.8	1598.1	1329.5	1248.3
52.5°	2142.1	1850.5	1434.7	1178.1	1104.2
55°	1986.6	1683.4	1263.5	1030.4	956.6
57.5°	1827.4	1516.3	1112.1	894.3	832.0
60°	1664.1	1353.1	952.5	754.5	692.2
62.5°	1504.8	1193.8	816.4	629.9	598.9
65°	1341.4	1026.3	676.5	544.5	532.5
67.5°	1186.0	870.8	544.5	478.1	466.5
70°	1022.6	719.4	450.9	412.1	396.4
72.5°	867.0	579.2	377.1	346.1	338.2
75°	715.3	443.0	311.0	283.8	280.1
77.5°	563.9	314.8	245.0	229.4	221.5
80°	423.6	225.7	186.4	171.2	171.2
82.5°	295.3	151.8	128.3	120.5	120.5
85°	167.1	85.4	73.8	73.8	73.8
87.5°	62.3	30.9	30.9	27.2	27.2
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	15.07	16.59	15.43	16.90	17.22	11.03	12.55	11.39	12.86	13.18
	3H	16.83	18.20	17.21	18.53	18.89	12.29	13.66	12.67	13.99	14.35
	4H	17.50	18.78	17.90	19.13	19.51	12.80	14.08	13.20	14.43	14.80
	6H	17.99	19.17	18.40	19.54	19.93	13.18	14.36	13.59	14.73	15.12
	8H	18.15	19.28	18.58	19.67	20.07	13.30	14.43	13.73	14.82	15.22
	12H	18.26	19.34	18.69	19.72	20.15	13.38	14.46	13.81	14.84	15.27
4H	2H	15.17	16.45	15.57	16.80	17.18	11.72	13.01	12.12	13.35	13.73
	3H	17.11	18.17	17.52	18.57	18.97	13.17	14.23	13.58	14.63	15.03
	4H	17.86	18.81	18.29	19.23	19.67	13.77	14.72	14.20	15.14	15.58
	6H	18.45	19.28	18.90	19.72	20.18	14.26	15.09	14.71	15.53	15.99
	8H	18.66	19.44	19.12	19.88	20.35	14.42	15.19	14.88	15.64	16.11
	12H	18.81	19.51	19.30	19.99	20.46	14.53	15.23	15.02	15.71	16.18
8H	4H	17.88	18.66	18.34	19.10	19.57	14.12	14.90	14.58	15.34	15.81
	6H	18.52	19.16	19.01	19.65	20.13	14.71	15.35	15.20	15.84	16.32
	8H	18.77	19.34	19.28	19.85	20.34	14.93	15.51	15.44	16.02	16.50
	12H	18.97	19.48	19.48	19.97	20.54	15.11	15.62	15.62	16.11	16.67
12H	4H	17.86	18.56	18.35	19.04	19.51	14.16	14.86	14.65	15.34	15.81
	6H	18.50	19.08	19.01	19.58	20.07	14.77	15.35	15.28	15.86	16.35
	8H	18.78	19.29	19.29	19.78	20.35	15.04	15.55	15.55	16.05	16.61

END OF REPORT

FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE

7 of 7