

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: P931162

Luminaire Tested: DFN2DS-SQ4F0-110DS850-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931162
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-SQ4F0-110DS850-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

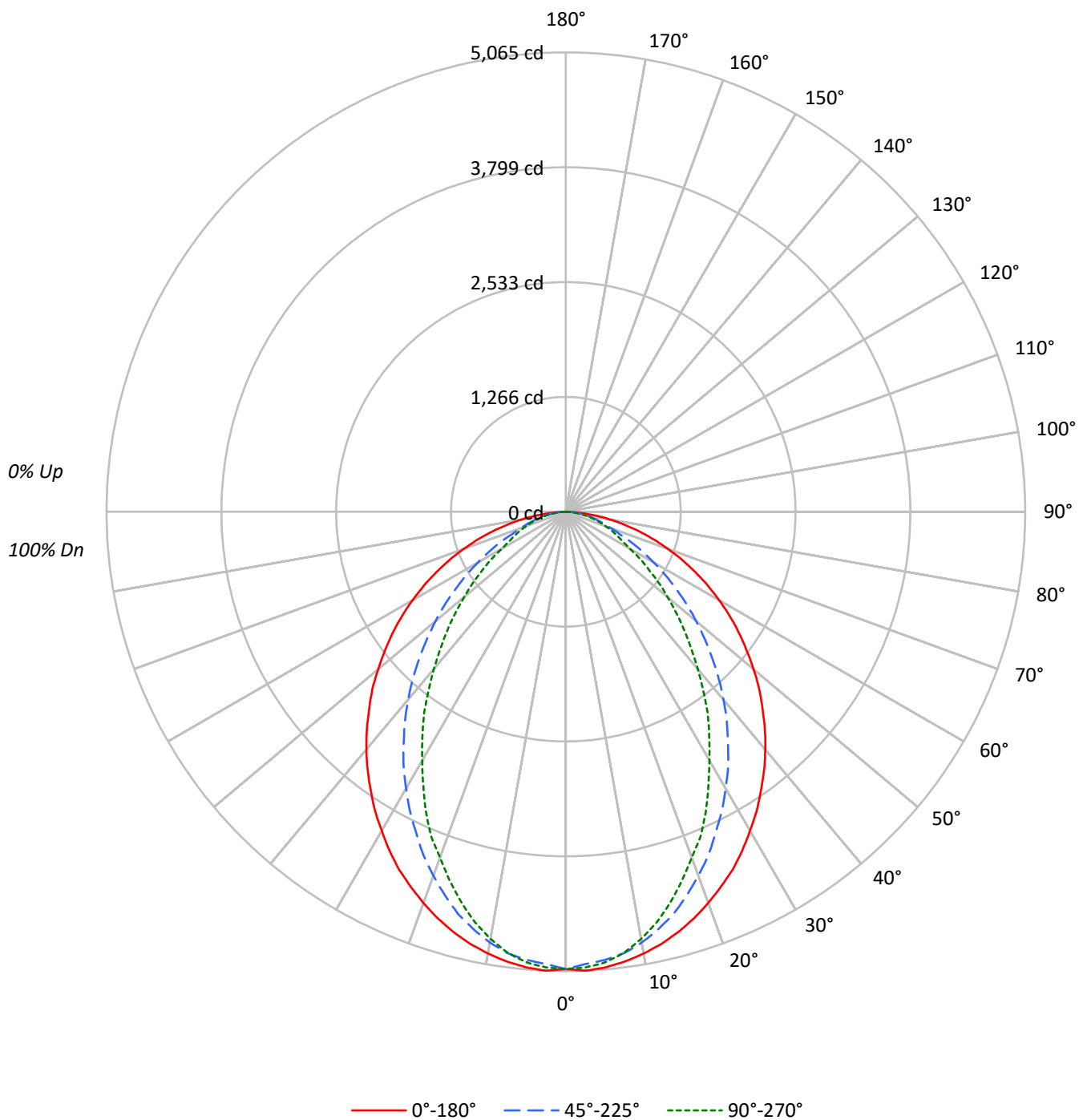
Lumens per Lamp: N/A
Luminaire Lumens: 10369.2 lumens
Efficiency: N/A
Efficacy: 91.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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: P931162

CATALOG NUMBER: DFN2DS-SQ4F0-110DS850-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P931162

CATALOG NUMBER: DFN2DS-SQ4F0-110DS850-RLL

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°	3538	3538	3538
5°	3551	3493	3513
10°	3524	3436	3407
15°	3484	3334	3238
20°	3428	3189	3029
25°	3370	3024	2826
30°	3290	2854	2566
35°	3213	2670	2337
40°	3134	2478	2073
45°	3043	2264	1834
50°	2949	2047	1599
55°	2852	1814	1373
60°	2740	1569	1140
65°	2614	1318	1038
70°	2462	1085	954
75°	2276	990	891
80°	2009	884	812
85°	1579	697	697

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3043 cd/sqm

TEST NUMBER: P931162

CATALOG NUMBER: DFN2DS-SQ4F0-110DS850-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	472.5	4.6
10°-20°	1297.2	12.5
20°-30°	1821.2	17.6
30°-40°	1985.2	19.1
40°-50°	1824.6	17.6
50°-60°	1433.0	13.8
60°-70°	932.7	9.0
70°-80°	480.1	4.6
80°-90°	122.6	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°	3590.9	34.6
0°-40°	5576.1	53.8
0°-60°	8833.7	85.2
0°-90°	10369.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10369.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5042	5042	5042	5042	5042	
5°	5042	5019	4960	5001	4987	478
15°	4795	4745	4590	4504	4458	1351
25°	4353	4207	3906	3719	3650	2002
35°	3751	3518	3117	2829	2728	2348
45°	3066	2760	2282	1957	1848	2368
55°	2331	1976	1483	1209	1123	2083
65°	1574	1204	794	639	625	1561
75°	839	520	365	333	329	888
85°	196	100	87	87	87	235
90°	0	0	0	0	0	

TEST NUMBER: P931162

CATALOG NUMBER: DFN2DS-SQ4F0-110DS850-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5041.8	5041.8	5041.8	5041.8	5041.8
2.5°	5064.6	5041.8	4991.5	5037.5	5028.3
5°	5041.8	5019.1	4959.6	5000.7	4987.2
7.5°	5000.7	4973.5	4909.7	4927.6	4904.8
10°	4946.0	4914.0	4823.0	4809.0	4781.9
12.5°	4877.7	4836.6	4713.1	4686.0	4635.6
15°	4795.4	4745.1	4590.2	4503.5	4458.0
17.5°	4699.6	4626.5	4434.8	4334.5	4261.4
20°	4590.2	4498.7	4270.6	4156.9	4056.2
22.5°	4471.6	4366.5	4101.7	3946.8	3878.5
25°	4352.9	4206.8	3905.7	3718.8	3650.1
27.5°	4211.6	4056.2	3723.1	3508.7	3403.6
30°	4061.0	3887.3	3522.3	3289.8	3166.4
32.5°	3914.9	3704.7	3331.0	3057.1	2942.8
35°	3750.7	3517.9	3116.6	2829.1	2728.4
37.5°	3591.1	3339.8	2915.7	2600.5	2486.8
40°	3422.0	3148.6	2705.6	2381.7	2263.1
42.5°	3248.7	2956.8	2496.0	2158.1	2044.3
45°	3066.3	2760.3	2281.5	1957.2	1847.8
47.5°	2892.9	2569.1	2076.3	1751.9	1651.7
50°	2701.2	2377.4	1875.4	1560.3	1464.9
52.5°	2513.9	2171.6	1683.7	1382.6	1295.9
55°	2331.3	1975.6	1482.7	1209.3	1122.6
57.5°	2144.6	1779.5	1305.1	1049.6	976.4
60°	1952.8	1587.9	1117.8	885.4	812.3
62.5°	1766.0	1401.0	958.1	739.3	702.9
65°	1574.2	1204.4	793.9	639.0	624.9
67.5°	1391.8	1021.9	639.0	561.0	547.5
70°	1200.0	844.3	529.1	483.6	465.2
72.5°	1017.5	679.7	442.5	406.1	396.9
75°	839.4	519.9	365.0	333.0	328.7
77.5°	661.7	369.4	287.6	269.2	259.9
80°	497.2	264.8	218.8	201.0	201.0
82.5°	346.6	178.1	150.6	141.4	141.4
85°	196.1	100.3	86.6	86.6	86.6
87.5°	73.1	36.3	36.3	31.9	31.9
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931162

CATALOG NUMBER: DFN2DS-SQ4F0-110DS850-RLL

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	15.62	17.15	15.99	17.46	17.77	11.59	13.11	11.95	13.42	13.74
	3H	17.39	18.76	17.77	19.08	19.44	12.85	14.22	13.23	14.54	14.91
	4H	18.06	19.34	18.46	19.69	20.06	13.35	14.63	13.75	14.98	15.36
	6H	18.54	19.73	18.96	20.09	20.49	13.73	14.92	14.15	15.28	15.67
	8H	18.71	19.84	19.14	20.23	20.63	13.86	14.98	14.28	15.37	15.77
	12H	18.81	19.89	19.24	20.27	20.70	13.94	15.02	14.37	15.40	15.83
4H	2H	15.73	17.01	16.13	17.36	17.74	12.28	13.56	12.68	13.91	14.29
	3H	17.66	18.72	18.07	19.12	19.53	13.72	14.79	14.13	15.19	15.59
	4H	18.41	19.37	18.84	19.78	20.22	14.32	15.28	14.76	15.70	16.13
	6H	19.00	19.83	19.46	20.28	20.74	14.81	15.64	15.27	16.09	16.55
	8H	19.22	19.99	19.68	20.44	20.91	14.97	15.75	15.44	16.19	16.66
	12H	19.37	20.07	19.85	20.54	21.01	15.09	15.79	15.57	16.26	16.73
8H	4H	18.44	19.21	18.90	19.66	20.12	14.68	15.45	15.14	15.90	16.37
	6H	19.07	19.72	19.57	20.21	20.68	15.26	15.91	15.76	16.40	16.87
	8H	19.32	19.90	19.84	20.41	20.90	15.49	16.06	16.00	16.57	17.06
	12H	19.53	20.04	20.04	20.53	21.09	15.66	16.17	16.17	16.67	17.23
12H	4H	18.42	19.11	18.90	19.59	20.06	14.72	15.41	15.20	15.89	16.36
	6H	19.05	19.63	19.57	20.14	20.63	15.33	15.90	15.84	16.41	16.90
	8H	19.34	19.85	19.85	20.34	20.90	15.60	16.11	16.11	16.60	17.17