

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: P931168

Luminaire Tested: DFN2DS-SQ4F0-110DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931168
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-SQ4F0-110DS935-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

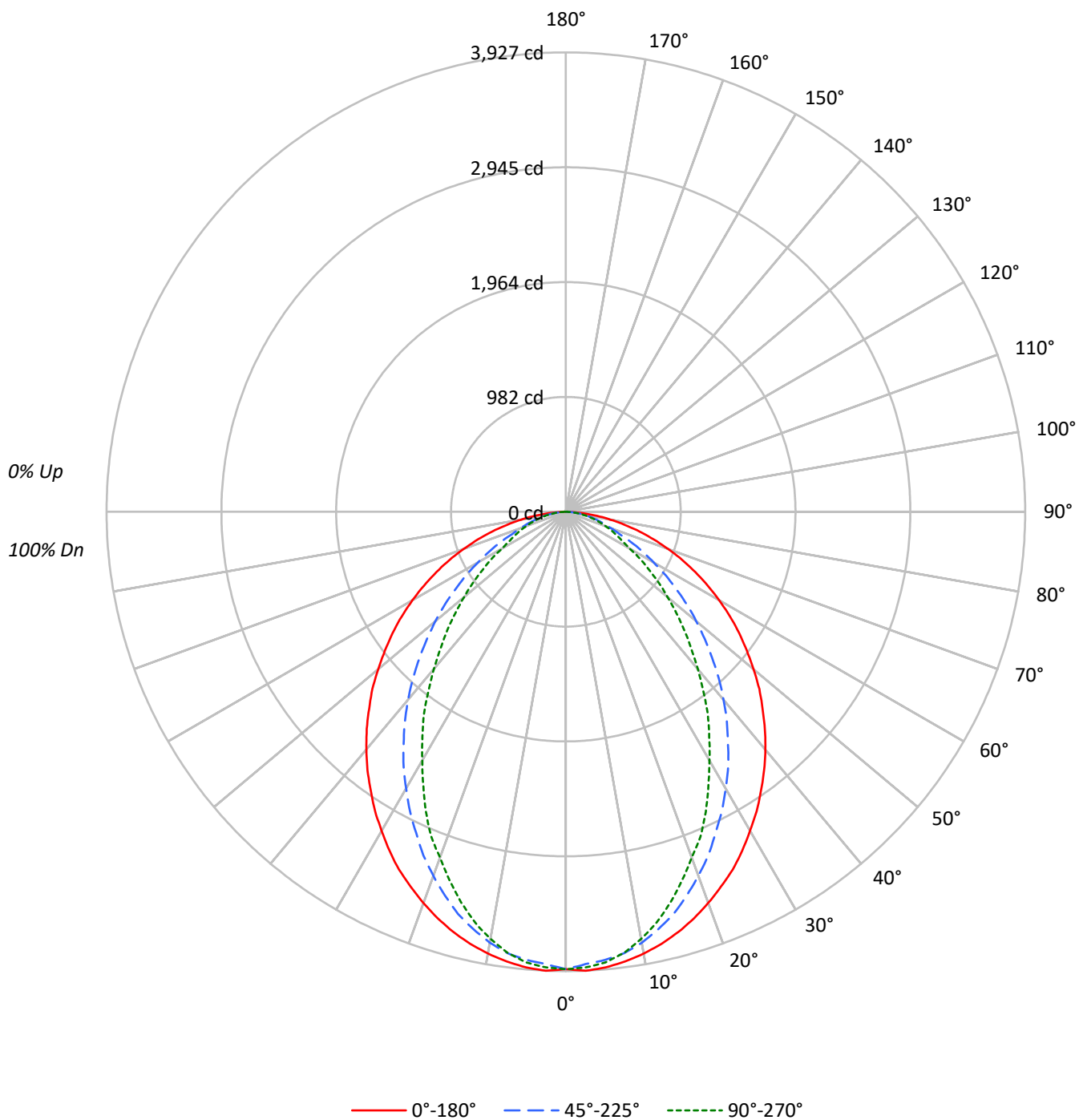
Lumens per Lamp: N/A
Luminaire Lumens: 8041.0 lumens
Efficiency: N/A
Efficacy: 71.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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: P931168

CATALOG NUMBER: DFN2DS-SQ4F0-110DS935-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P931168

CATALOG NUMBER: DFN2DS-SQ4F0-110DS935-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°	2743	2743	2743
5°	2754	2709	2724
10°	2733	2665	2642
15°	2701	2586	2511
20°	2658	2473	2349
25°	2613	2345	2191
30°	2552	2213	1990
35°	2491	2070	1812
40°	2431	1922	1608
45°	2360	1756	1422
50°	2287	1588	1240
55°	2212	1407	1065
60°	2125	1216	884
65°	2027	1022	805
70°	1909	842	740
75°	1765	767	691
80°	1558	686	630
85°	1224	541	541

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2360 cd/sqm

TEST NUMBER: P931168

CATALOG NUMBER: DFN2DS-SQ4F0-110DS935-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	366.4	4.6
10°-20°	1005.9	12.5
20°-30°	1412.3	17.6
30°-40°	1539.5	19.1
40°-50°	1414.9	17.6
50°-60°	1111.2	13.8
60°-70°	723.3	9.0
70°-80°	372.3	4.6
80°-90°	95.1	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°	2784.6	34.6
0°-40°	4324.1	53.8
0°-60°	6850.3	85.2
0°-90°	8041.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8041.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3910	3910	3910	3910	3910	
5°	3910	3892	3846	3878	3867	371
15°	3719	3680	3560	3492	3457	1048
25°	3376	3262	3029	2884	2830	1552
35°	2909	2728	2417	2194	2116	1821
45°	2378	2140	1769	1518	1433	1836
55°	1808	1532	1150	938	871	1616
65°	1221	934	616	496	485	1210
75°	651	403	283	258	255	688
85°	152	78	67	67	67	182
90°	0	0	0	0	0	

TEST NUMBER: P931168

CATALOG NUMBER: DFN2DS-SQ4F0-110DS935-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3909.8	3909.8	3909.8	3909.8	3909.8
2.5°	3927.4	3909.8	3870.8	3906.5	3899.3
5°	3909.8	3892.2	3846.0	3877.9	3867.4
7.5°	3877.9	3856.8	3807.3	3821.2	3803.5
10°	3835.5	3810.7	3740.1	3729.2	3708.2
12.5°	3782.5	3750.6	3654.9	3633.8	3594.8
15°	3718.7	3679.7	3559.5	3492.4	3457.0
17.5°	3644.4	3587.7	3439.1	3361.3	3304.6
20°	3559.5	3488.6	3311.8	3223.5	3145.4
22.5°	3467.6	3386.1	3180.8	3060.7	3007.7
25°	3375.6	3262.2	3028.7	2883.8	2830.5
27.5°	3266.0	3145.4	2887.2	2720.9	2639.4
30°	3149.2	3014.5	2731.4	2551.2	2455.5
32.5°	3035.9	2872.9	2583.1	2370.7	2282.1
35°	2908.6	2728.0	2416.9	2193.9	2115.8
37.5°	2784.8	2589.9	2261.0	2016.6	1928.5
40°	2653.7	2441.6	2098.1	1846.9	1755.0
42.5°	2519.3	2292.9	1935.6	1673.6	1585.3
45°	2377.8	2140.5	1769.3	1517.7	1432.9
47.5°	2243.4	1992.3	1610.1	1358.5	1280.9
50°	2094.7	1843.6	1454.3	1209.9	1136.0
52.5°	1949.4	1684.1	1305.7	1072.2	1004.9
55°	1807.9	1532.0	1149.8	937.7	870.6
57.5°	1663.1	1380.0	1012.0	813.9	757.1
60°	1514.4	1231.3	866.8	686.6	630.0
62.5°	1369.5	1086.4	743.0	573.3	545.1
65°	1220.8	934.0	615.7	495.5	484.6
67.5°	1079.3	792.5	495.5	435.1	424.6
70°	930.6	654.7	410.3	375.0	360.8
72.5°	789.0	527.1	343.1	314.9	307.8
75°	650.9	403.2	283.0	258.3	254.9
77.5°	513.2	286.5	223.0	208.7	201.6
80°	385.5	205.4	169.7	155.8	155.8
82.5°	268.8	138.1	116.8	109.6	109.6
85°	152.0	77.7	67.2	67.2	67.2
87.5°	56.7	28.1	28.1	24.8	24.8
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931168

CATALOG NUMBER: DFN2DS-SQ4F0-110DS935-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	14.74	16.26	15.11	16.58	16.89	10.70	12.22	11.07	12.54	12.85
	3H	16.51	17.87	16.88	18.20	18.56	11.97	13.33	12.34	13.66	14.02
	4H	17.17	18.45	17.57	18.80	19.18	12.47	13.75	12.87	14.10	14.48
	6H	17.66	18.84	18.07	19.21	19.60	12.85	14.03	13.26	14.40	14.79
	8H	17.83	18.95	18.25	19.34	19.74	12.97	14.10	13.40	14.49	14.89
	12H	17.93	19.01	18.36	19.39	19.82	13.06	14.13	13.49	14.52	14.94
4H	2H	14.85	16.13	15.24	16.47	16.85	11.40	12.68	11.80	13.03	13.41
	3H	16.78	17.84	17.19	18.24	18.64	12.84	13.90	13.25	14.30	14.70
	4H	17.53	18.48	17.96	18.90	19.34	13.44	14.40	13.87	14.81	15.25
	6H	18.12	18.95	18.58	19.39	19.85	13.93	14.76	14.39	15.20	15.66
	8H	18.33	19.11	18.80	19.56	20.02	14.09	14.87	14.55	15.31	15.78
	12H	18.49	19.18	18.97	19.66	20.13	14.21	14.90	14.69	15.38	15.85
8H	4H	17.55	18.33	18.02	18.77	19.24	13.79	14.57	14.26	15.02	15.48
	6H	18.19	18.83	18.69	19.32	19.80	14.38	15.02	14.88	15.51	15.99
	8H	18.44	19.02	18.95	19.53	20.01	14.60	15.18	15.12	15.69	16.18
	12H	18.64	19.15	19.15	19.65	20.21	14.78	15.29	15.29	15.78	16.35
12H	4H	17.54	18.23	18.02	18.71	19.18	13.84	14.53	14.32	15.01	15.48
	6H	18.17	18.75	18.68	19.26	19.75	14.44	15.02	14.96	15.53	16.02
	8H	18.45	18.96	18.96	19.46	20.02	14.72	15.23	15.23	15.72	16.28