

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: P931046

Luminaire Tested: DFN2DS-SQ3F0-110DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931046
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-SQ3F0-110DS950-RLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

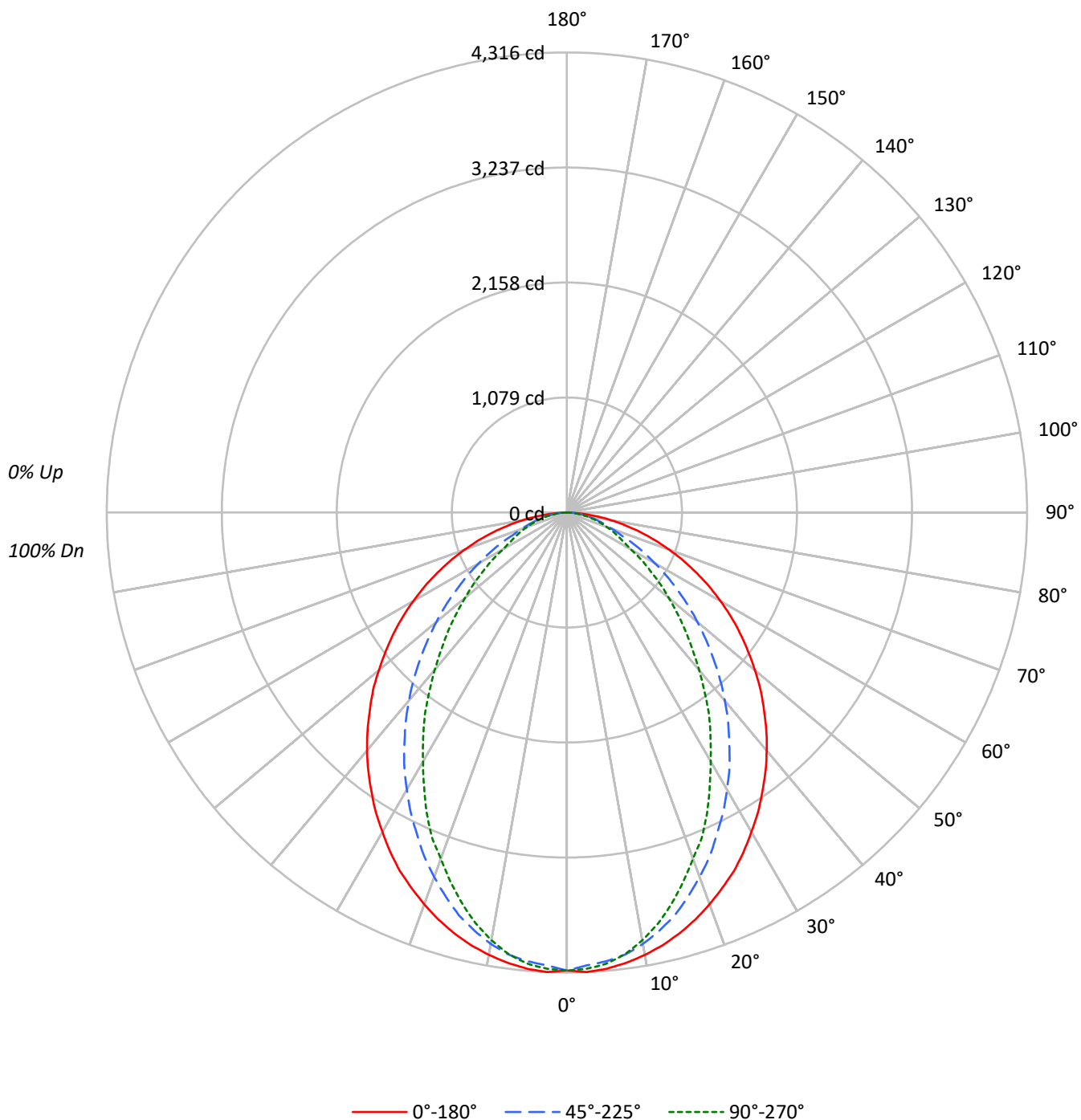
Lumens per Lamp: N/A
Luminaire Lumens: 8835.7 lumens
Efficiency: N/A
Efficacy: 75.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 117.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931046

CATALOG NUMBER: DFN2DS-SQ3F0-110DS950-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P931046

CATALOG NUMBER: DFN2DS-SQ3F0-110DS950-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°	4923	4923	4923
5°	4942	4861	4888
10°	4904	4782	4741
15°	4847	4640	4506
20°	4769	4437	4214
25°	4689	4208	3932
30°	4578	3971	3570
35°	4471	3715	3252
40°	4362	3448	2885
45°	4234	3150	2551
50°	4103	2849	2225
55°	3969	2524	1911
60°	3813	2183	1586
65°	3637	1834	1444
70°	3426	1511	1328
75°	3167	1377	1240
80°	2795	1230	1130
85°	2197	970	970

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4234 cd/sqm

TEST NUMBER: P931046

CATALOG NUMBER: DFN2DS-SQ3F0-110DS950-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	

TEST NUMBER: P931046

CATALOG NUMBER: DFN2DS-SQ3F0-110DS950-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

TEST NUMBER: P931046

CATALOG NUMBER: DFN2DS-SQ3F0-110DS950-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	16.77	18.29	17.14	18.61	18.92	12.73	14.25	13.10	14.57	14.88
	3H	18.54	19.90	18.92	20.23	20.59	14.00	15.36	14.38	15.69	16.05
	4H	19.20	20.48	19.60	20.83	21.21	14.50	15.78	14.90	16.13	16.51
	6H	19.69	20.88	20.10	21.24	21.63	14.88	16.06	15.29	16.43	16.82
	8H	19.86	20.98	20.28	21.37	21.78	15.01	16.13	15.43	16.52	16.92
	12H	19.96	21.04	20.39	21.42	21.85	15.09	16.16	15.52	16.55	16.98
4H	2H	16.88	18.16	17.28	18.51	18.88	13.43	14.71	13.83	15.06	15.44
	3H	18.81	19.87	19.22	20.27	20.67	14.87	15.93	15.28	16.33	16.74
	4H	19.56	20.52	19.99	20.93	21.37	15.47	16.43	15.90	16.84	17.28
	6H	20.15	20.98	20.61	21.43	21.89	15.96	16.79	16.42	17.23	17.69
	8H	20.37	21.14	20.83	21.59	22.05	16.12	16.90	16.58	17.34	17.81
	12H	20.52	21.21	21.00	21.69	22.16	16.24	16.93	16.72	17.41	17.88
8H	4H	19.58	20.36	20.05	20.80	21.27	15.82	16.60	16.29	17.05	17.51
	6H	20.22	20.86	20.72	21.35	21.83	16.41	17.05	16.91	17.55	18.02
	8H	20.47	21.05	20.98	21.56	22.05	16.63	17.21	17.15	17.72	18.21
	12H	20.68	21.18	21.18	21.68	22.24	16.81	17.32	17.32	17.81	18.38
12H	4H	19.57	20.26	20.05	20.74	21.21	15.87	16.56	16.35	17.04	17.51
	6H	20.20	20.78	20.72	21.29	21.78	16.47	17.05	16.99	17.56	18.05
	8H	20.49	21.00	21.00	21.49	22.05	16.75	17.26	17.26	17.75	18.31