

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: P931166

Luminaire Tested: DFN2DS-SQ4F0-110DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931166
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-SQ4F0-110DS930-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

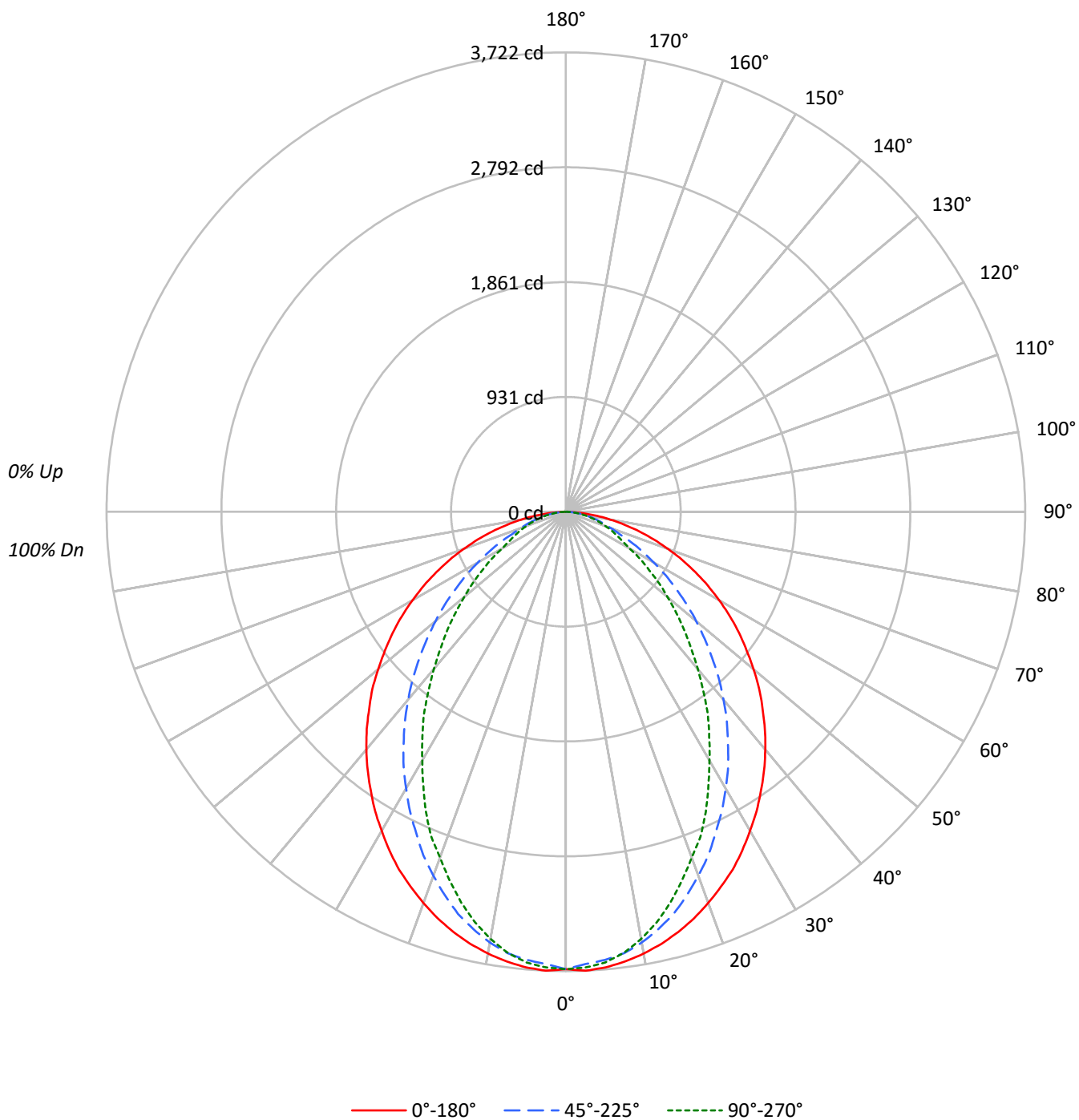
Lumens per Lamp: N/A
Luminaire Lumens: 7620.3 lumens
Efficiency: N/A
Efficacy: 67.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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: P931166

CATALOG NUMBER: DFN2DS-SQ4F0-110DS930-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°	2600	2600	2600
5°	2610	2567	2582
10°	2590	2525	2504
15°	2560	2450	2380
20°	2519	2344	2226
25°	2477	2222	2077
30°	2418	2097	1885
35°	2361	1962	1718
40°	2303	1821	1523
45°	2236	1664	1348
50°	2167	1504	1175
55°	2096	1333	1009
60°	2014	1153	838
65°	1921	969	763
70°	1809	798	701
75°	1672	727	655
80°	1477	650	597
85°	1160	513	513

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2236 cd/sqm

TEST NUMBER: P931166

CATALOG NUMBER: DFN2DS-SQ4F0-110DS930-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	347.3	4.6
10°-20°	953.3	12.5
20°-30°	1338.4	17.6
30°-40°	1458.9	19.1
40°-50°	1340.9	17.6
50°-60°	1053.1	13.8
60°-70°	685.5	9.0
70°-80°	352.9	4.6
80°-90°	90.1	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°	2638.9	34.6
0°-40°	4097.9	53.8
0°-60°	6491.9	85.2
0°-90°	7620.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7620.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3705	3705	3705	3705	3705	
5°	3705	3688	3645	3675	3665	351
15°	3524	3487	3373	3310	3276	993
25°	3199	3092	2870	2733	2682	1471
35°	2756	2585	2290	2079	2005	1725
45°	2253	2028	1677	1438	1358	1740
55°	1713	1452	1090	889	825	1531
65°	1157	885	584	470	459	1147
75°	617	382	268	245	242	652
85°	144	74	64	64	64	173
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-SQ4F0-110DS930-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3705.2	3705.2	3705.2	3705.2	3705.2
2.5°	3721.9	3705.2	3668.2	3702.1	3695.3
5°	3705.2	3688.5	3644.8	3675.0	3665.1
7.5°	3675.0	3655.0	3608.1	3621.3	3604.5
10°	3634.8	3611.3	3544.4	3534.1	3514.2
12.5°	3584.6	3554.4	3463.7	3443.7	3406.7
15°	3524.1	3487.1	3373.3	3309.6	3276.1
17.5°	3453.7	3400.0	3259.1	3185.4	3131.7
20°	3373.3	3306.0	3138.5	3054.9	2980.9
22.5°	3286.2	3208.9	3014.4	2900.5	2850.3
25°	3199.0	3091.5	2870.3	2732.9	2682.4
27.5°	3095.1	2980.9	2736.1	2578.5	2501.3
30°	2984.4	2856.7	2588.5	2417.7	2327.0
32.5°	2877.0	2722.6	2447.9	2246.6	2162.7
35°	2756.4	2585.3	2290.4	2079.1	2005.1
37.5°	2639.1	2454.4	2142.7	1911.1	1827.6
40°	2514.8	2313.9	1988.4	1750.3	1663.2
42.5°	2387.5	2173.0	1834.3	1586.0	1502.4
45°	2253.4	2028.5	1676.7	1438.3	1358.0
47.5°	2126.0	1888.0	1525.8	1287.5	1213.9
50°	1985.1	1747.1	1378.2	1146.6	1076.5
52.5°	1847.4	1595.9	1237.3	1016.1	952.3
55°	1713.3	1451.8	1089.7	888.7	825.0
57.5°	1576.0	1307.7	959.1	771.3	717.5
60°	1435.1	1166.9	821.4	650.7	597.0
62.5°	1297.8	1029.6	704.1	543.3	516.5
65°	1156.9	885.1	583.5	469.6	459.3
67.5°	1022.8	751.0	469.6	412.3	402.4
70°	881.9	620.5	388.8	355.4	341.9
72.5°	747.8	499.5	325.2	298.5	291.7
75°	616.9	382.1	268.2	244.7	241.6
77.5°	486.3	271.5	211.3	197.8	191.0
80°	365.4	194.6	160.8	147.7	147.7
82.5°	254.7	130.9	110.7	103.9	103.9
85°	144.1	73.7	63.7	63.7	63.7
87.5°	53.7	26.7	26.7	23.5	23.5
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	14.55	16.08	14.92	16.39	16.70	10.51	12.04	10.88	12.35	12.66
	3H	16.32	17.68	16.70	18.01	18.37	11.78	13.15	12.16	13.47	13.83
	4H	16.99	18.27	17.39	18.62	18.99	12.28	13.56	12.68	13.91	14.29
	6H	17.47	18.66	17.89	19.02	19.42	12.66	13.85	13.07	14.21	14.60
	8H	17.64	18.77	18.07	19.16	19.56	12.79	13.91	13.21	14.30	14.70
	12H	17.74	18.82	18.17	19.20	19.63	12.87	13.95	13.30	14.33	14.76
4H	2H	14.66	15.94	15.06	16.29	16.67	11.21	12.49	11.61	12.84	13.22
	3H	16.59	17.65	17.00	18.05	18.46	12.65	13.72	13.06	14.12	14.52
	4H	17.34	18.30	17.77	18.71	19.15	13.25	14.21	13.69	14.62	15.06
	6H	17.93	18.76	18.39	19.21	19.67	13.74	14.57	14.20	15.02	15.48
	8H	18.15	18.92	18.61	19.37	19.84	13.90	14.68	14.37	15.12	15.59
	12H	18.30	19.00	18.78	19.47	19.94	14.02	14.72	14.50	15.19	15.66
8H	4H	17.37	18.14	17.83	18.59	19.05	13.61	14.38	14.07	14.83	15.30
	6H	18.00	18.65	18.50	19.14	19.61	14.19	14.84	14.69	15.33	15.80
	8H	18.25	18.83	18.77	19.34	19.83	14.41	14.99	14.93	15.50	15.99
	12H	18.46	18.97	18.97	19.46	20.02	14.59	15.10	15.10	15.60	16.16
12H	4H	17.35	18.04	17.83	18.52	18.99	13.65	14.34	14.13	14.82	15.29
	6H	17.98	18.56	18.50	19.07	19.56	14.26	14.83	14.77	15.34	15.83
	8H	18.27	18.78	18.78	19.27	19.83	14.53	15.04	15.04	15.53	16.10