

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: P931167

Luminaire Tested: DFN2DS-SQ4F0-110DS935-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931167
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ4F0-110DS935-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

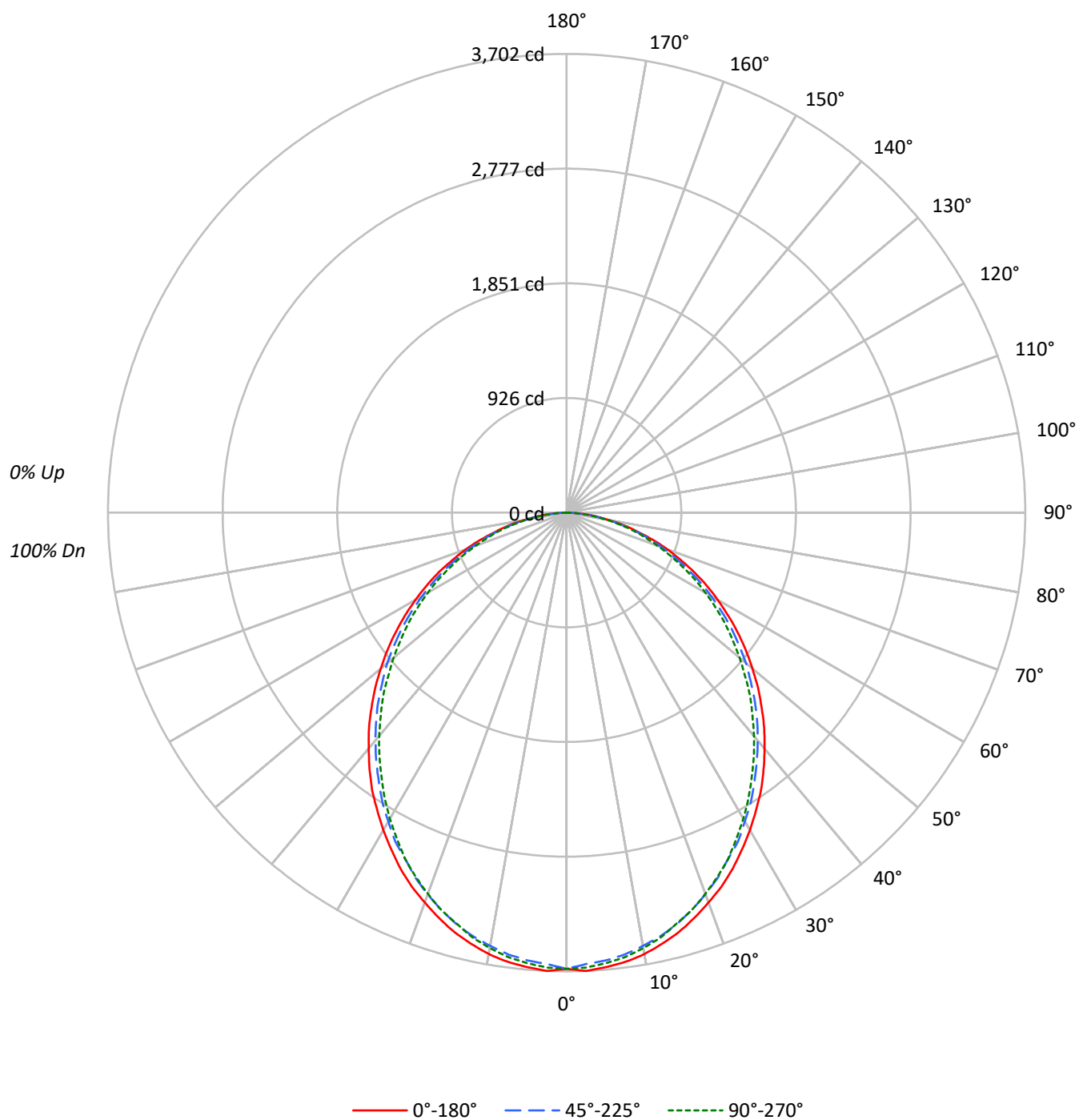
Lumens per Lamp: N/A
Luminaire Lumens: 9365.4 lumens
Efficiency: N/A
Efficacy: 82.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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

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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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2583	2583	2583
5°	2593	2555	2570
10°	2577	2530	2542
15°	2545	2497	2494
20°	2500	2447	2445
25°	2455	2387	2387
30°	2398	2332	2311
35°	2344	2265	2231
40°	2276	2198	2156
45°	2209	2132	2079
50°	2137	2063	1990
55°	2061	1983	1910
60°	1977	1888	1818
65°	1887	1792	1710
70°	1772	1677	1598
75°	1611	1544	1507
80°	1431	1387	1316
85°	1167	1113	997

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2209 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	346.4	3.7
10°-20°	974.8	10.4
20°-30°	1432.5	15.3
30°-40°	1663.8	17.8
40°-50°	1661.8	17.7
50°-60°	1449.0	15.5
60°-70°	1071.1	11.4
70°-80°	606.0	6.5
80°-90°	160.0	1.7
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°	2753.8	29.4
0°-40°	4417.6	47.2
0°-60°	7528.3	80.4
0°-90°	9365.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9365.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3681	3681	3681	3681	3681	
5°	3681	3667	3628	3656	3649	349
15°	3504	3483	3437	3451	3434	987
25°	3171	3143	3083	3090	3083	1459
35°	2736	2701	2644	2623	2605	1709
45°	2226	2202	2148	2110	2096	1718
55°	1685	1664	1621	1579	1561	1506
65°	1136	1115	1080	1048	1030	1124
75°	594	588	570	549	556	635
85°	145	142	138	127	124	170
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3681.0	3681.0	3681.0	3681.0	3681.0
2.5°	3702.3	3684.7	3645.6	3681.0	3674.2
5°	3681.0	3667.0	3628.0	3656.1	3649.4
7.5°	3656.1	3635.1	3596.1	3624.6	3617.5
10°	3617.5	3592.6	3550.3	3578.4	3567.9
12.5°	3564.2	3543.1	3500.7	3518.3	3511.2
15°	3504.1	3483.0	3436.8	3451.1	3433.5
17.5°	3429.7	3408.7	3362.5	3380.1	3362.5
20°	3348.2	3327.2	3277.6	3288.1	3274.3
22.5°	3267.1	3235.1	3189.0	3189.0	3181.8
25°	3171.3	3143.2	3083.1	3089.9	3083.1
27.5°	3065.0	3040.3	2994.4	2983.9	2966.3
30°	2959.2	2930.6	2877.6	2867.2	2852.9
32.5°	2845.7	2824.8	2768.0	2746.6	2732.3
35°	2736.1	2700.8	2644.1	2622.7	2605.0
37.5°	2612.2	2580.3	2523.6	2498.7	2481.1
40°	2484.9	2456.3	2399.7	2368.1	2353.8
42.5°	2361.0	2332.4	2276.1	2240.4	2219.4
45°	2226.5	2201.7	2148.4	2109.8	2095.5
47.5°	2095.5	2070.7	2013.9	1974.9	1953.8
50°	1957.3	1939.6	1890.0	1840.5	1822.9
52.5°	1822.9	1798.0	1752.2	1713.1	1688.4
55°	1685.0	1663.6	1621.2	1578.7	1561.1
57.5°	1546.8	1529.2	1483.0	1440.5	1426.2
60°	1408.6	1394.7	1345.1	1306.1	1295.6
62.5°	1274.2	1249.4	1214.1	1178.8	1164.5
65°	1136.3	1114.9	1079.6	1047.7	1030.1
67.5°	994.8	976.8	945.2	920.5	906.2
70°	863.7	849.4	817.5	792.7	778.8
72.5°	729.3	715.0	697.4	672.6	662.0
75°	594.4	587.7	569.7	548.7	555.8
77.5°	474.3	460.0	452.9	442.4	431.9
80°	354.1	350.4	343.2	332.7	325.6
82.5°	240.7	240.7	237.4	223.1	223.1
85°	145.0	141.6	138.2	127.3	123.9
87.5°	63.8	56.7	49.5	39.0	35.3
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	14.58	16.19	14.94	16.50	16.82	14.13	15.75	14.50	16.06	16.37
	3H	16.33	17.78	16.71	18.11	18.47	15.84	17.29	16.22	17.62	17.98
	4H	16.98	18.34	17.37	18.69	19.07	16.48	17.85	16.88	18.20	18.57
	6H	17.44	18.71	17.86	19.08	19.47	16.94	18.21	17.35	18.58	18.97
	8H	17.59	18.80	18.01	19.19	19.59	17.09	18.30	17.51	18.68	19.08
	12H	17.68	18.84	18.11	19.22	19.65	17.17	18.33	17.60	18.71	19.14
4H	2H	15.14	16.51	15.54	16.86	17.23	14.79	16.16	15.19	16.50	16.88
	3H	17.12	18.26	17.52	18.66	19.06	16.71	17.85	17.12	18.25	18.65
	4H	17.89	18.93	18.32	19.34	19.78	17.47	18.50	17.90	18.92	19.35
	6H	18.49	19.39	18.94	19.83	20.29	18.06	18.96	18.51	19.40	19.86
	8H	18.68	19.52	19.14	19.97	20.43	18.24	19.09	18.70	19.53	19.99
	12H	18.81	19.57	19.29	20.05	20.51	18.36	19.12	18.84	19.59	20.06
8H	4H	18.16	19.01	18.63	19.45	19.92	17.79	18.64	18.25	19.08	19.54
	6H	18.88	19.58	19.37	20.07	20.55	18.50	19.20	18.99	19.69	20.16
	8H	19.14	19.77	19.65	20.28	20.76	18.75	19.38	19.26	19.88	20.37
	12H	19.34	19.90	19.85	20.39	20.95	18.93	19.48	19.43	19.97	20.53
12H	4H	18.19	18.95	18.67	19.43	19.90	17.83	18.59	18.31	19.06	19.53
	6H	18.92	19.56	19.43	20.06	20.55	18.56	19.19	19.07	19.69	20.18
	8H	19.24	19.80	19.75	20.29	20.85	18.86	19.42	19.37	19.91	20.47