

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: P931163

Luminaire Tested: DFN2DS-SQ4F0-110DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931163
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-SQ4F0-110DS927-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

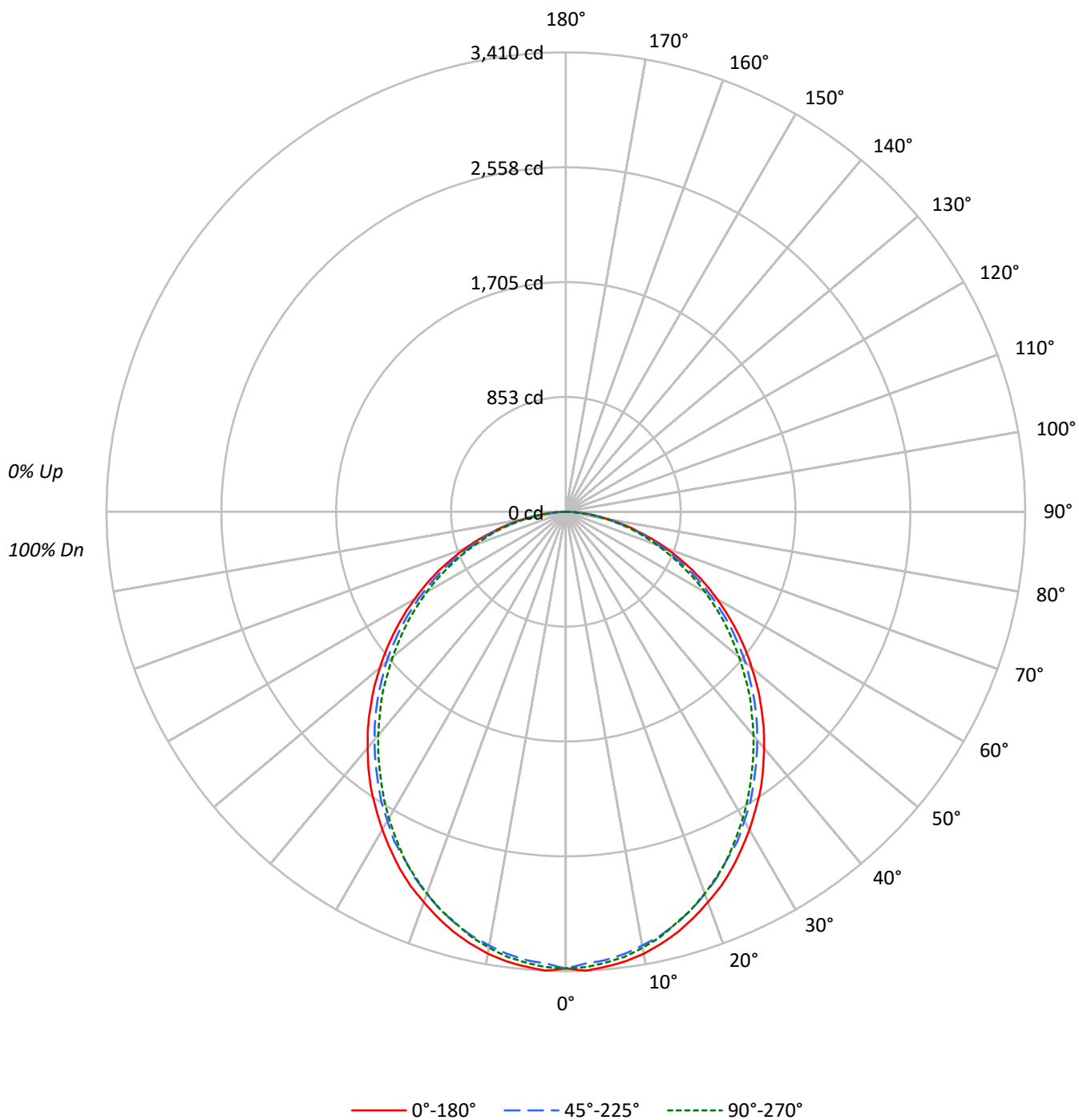
Lumens per Lamp: N/A
Luminaire Lumens: 8624.9 lumens
Efficiency: N/A
Efficacy: 76.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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°	2379	2379	2379
5°	2388	2353	2367
10°	2374	2330	2341
15°	2344	2299	2297
20°	2302	2254	2252
25°	2261	2198	2198
30°	2208	2147	2129
35°	2158	2086	2055
40°	2096	2024	1986
45°	2035	1963	1915
50°	1968	1900	1832
55°	1898	1826	1759
60°	1820	1738	1674
65°	1738	1651	1575
70°	1632	1545	1471
75°	1484	1422	1388
80°	1318	1277	1212
85°	1075	1025	919

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2035 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	319.1	3.7
10°-20°	897.7	10.4
20°-30°	1319.3	15.3
30°-40°	1532.2	17.8
40°-50°	1530.4	17.7
50°-60°	1334.4	15.5
60°-70°	986.4	11.4
70°-80°	558.1	6.5
80°-90°	147.3	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°	2536.0	29.4
0°-40°	4068.3	47.2
0°-60°	6933.0	80.4
0°-90°	8624.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8624.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3390	3390	3390	3390	3390	
5°	3390	3377	3341	3367	3361	322
15°	3227	3208	3165	3178	3162	909
25°	2921	2895	2839	2846	2839	1344
35°	2520	2487	2435	2415	2399	1573
45°	2050	2028	1978	1943	1930	1582
55°	1552	1532	1493	1454	1438	1387
65°	1046	1027	994	965	949	1035
75°	547	541	525	505	512	584
85°	134	130	127	117	114	157
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3389.9	3389.9	3389.9	3389.9	3389.9
2.5°	3409.6	3393.3	3357.4	3389.9	3383.7
5°	3389.9	3377.1	3341.1	3367.0	3360.9
7.5°	3367.0	3347.7	3311.7	3338.0	3331.5
10°	3331.5	3308.6	3269.5	3295.4	3285.8
12.5°	3282.4	3263.0	3223.9	3240.2	3233.6
15°	3227.0	3207.6	3165.1	3178.2	3162.0
17.5°	3158.5	3139.2	3096.6	3112.9	3096.6
20°	3083.5	3064.1	3018.5	3028.1	3015.4
22.5°	3008.8	2979.3	2936.8	2936.8	2930.2
25°	2920.6	2894.7	2839.3	2845.6	2839.3
27.5°	2822.7	2799.9	2757.7	2748.0	2731.8
30°	2725.2	2698.9	2650.1	2640.4	2627.3
32.5°	2620.7	2601.4	2549.1	2529.4	2516.3
35°	2519.7	2487.3	2435.0	2415.3	2399.0
37.5°	2405.6	2376.2	2324.0	2301.2	2284.9
40°	2288.4	2262.1	2209.9	2180.9	2167.7
42.5°	2174.3	2148.0	2096.1	2063.2	2043.9
45°	2050.5	2027.6	1978.5	1942.9	1929.8
47.5°	1929.8	1907.0	1854.7	1818.7	1799.3
50°	1802.5	1786.3	1740.6	1695.0	1678.7
52.5°	1678.7	1655.8	1613.7	1577.7	1554.9
55°	1551.8	1532.0	1493.0	1453.9	1437.6
57.5°	1424.5	1408.3	1365.7	1326.6	1313.5
60°	1297.2	1284.5	1238.8	1202.8	1193.1
62.5°	1173.4	1150.6	1118.1	1085.6	1072.4
65°	1046.5	1026.7	994.3	964.9	948.7
67.5°	916.1	899.6	870.5	847.7	834.5
70°	795.4	782.3	752.9	730.1	717.2
72.5°	671.6	658.5	642.2	619.4	609.7
75°	547.4	541.3	524.6	505.3	511.9
77.5°	436.8	423.6	417.1	407.4	397.7
80°	326.1	322.7	316.1	306.4	299.9
82.5°	221.7	221.7	218.6	205.4	205.4
85°	133.5	130.4	127.3	117.2	114.1
87.5°	58.8	52.2	45.6	36.0	32.5
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	14.29	15.90	14.66	16.22	16.53	13.85	15.46	14.21	15.77	16.09
	3H	16.04	17.50	16.42	17.82	18.19	15.55	17.01	15.93	17.33	17.69
	4H	16.69	18.06	17.09	18.41	18.78	16.19	17.56	16.59	17.91	18.29
	6H	17.16	18.43	17.57	18.79	19.18	16.66	17.93	17.07	18.29	18.68
	8H	17.30	18.51	17.73	18.90	19.30	16.80	18.01	17.22	18.40	18.80
	12H	17.39	18.55	17.82	18.93	19.36	16.88	18.04	17.31	18.42	18.85
4H	2H	14.85	16.22	15.25	16.57	16.95	14.50	15.87	14.90	16.22	16.59
	3H	16.83	17.98	17.24	18.37	18.77	16.42	17.57	16.83	17.97	18.37
	4H	17.61	18.64	18.04	19.05	19.49	17.18	18.22	17.61	18.63	19.07
	6H	18.20	19.11	18.66	19.55	20.00	17.77	18.67	18.22	19.11	19.57
	8H	18.39	19.24	18.85	19.68	20.15	17.95	18.80	18.41	19.24	19.71
	12H	18.52	19.28	19.00	19.76	20.23	18.07	18.83	18.55	19.31	19.78
8H	4H	17.88	18.73	18.34	19.17	19.63	17.50	18.35	17.97	18.79	19.26
	6H	18.59	19.30	19.09	19.78	20.26	18.21	18.91	18.71	19.40	19.88
	8H	18.85	19.48	19.36	19.99	20.48	18.46	19.09	18.97	19.60	20.08
	12H	19.05	19.61	19.56	20.10	20.66	18.64	19.20	19.15	19.69	20.25
12H	4H	17.90	18.66	18.38	19.14	19.61	17.54	18.30	18.02	18.78	19.25
	6H	18.64	19.27	19.15	19.78	20.26	18.27	18.90	18.78	19.41	19.89
	8H	18.95	19.51	19.46	20.00	20.56	18.57	19.13	19.08	19.62	20.18