

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: P931147

Luminaire Tested: DFN2DS-SQ4F0-100DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931147
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-SQ4F0-100DS930-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

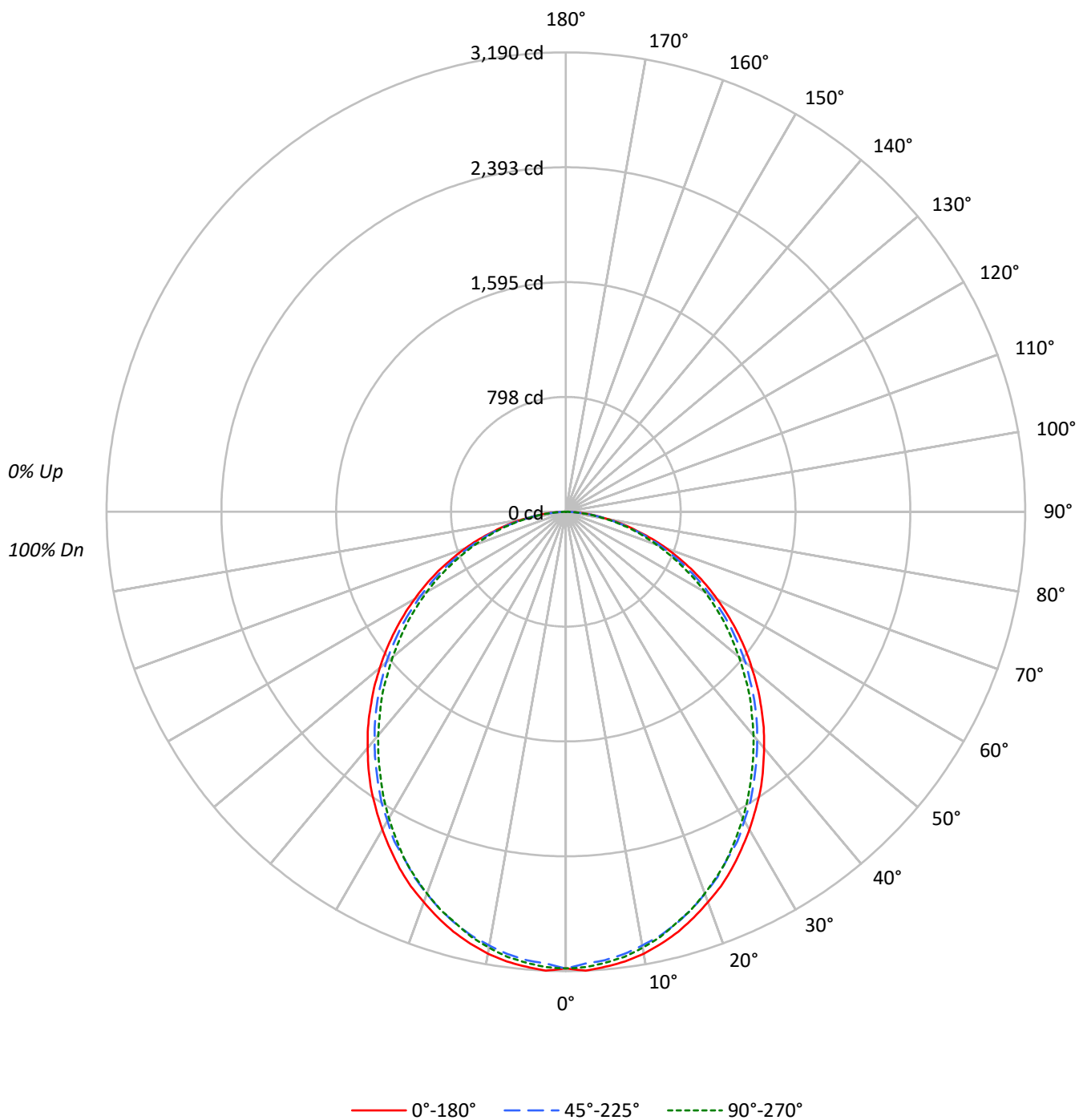
Lumens per Lamp: N/A
Luminaire Lumens: 8068.5 lumens
Efficiency: N/A
Efficacy: 80.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 100.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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°	2225	2225	2225
5°	2234	2202	2214
10°	2221	2179	2190
15°	2193	2151	2149
20°	2154	2108	2106
25°	2115	2056	2056
30°	2066	2009	1991
35°	2019	1951	1922
40°	1961	1894	1858
45°	1903	1837	1791
50°	1841	1777	1714
55°	1776	1709	1645
60°	1703	1626	1566
65°	1625	1544	1474
70°	1527	1445	1377
75°	1388	1331	1298
80°	1233	1195	1133
85°	1006	959	860

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1903 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	298.5	3.7
10°-20°	839.8	10.4
20°-30°	1234.2	15.3
30°-40°	1433.4	17.8
40°-50°	1431.6	17.7
50°-60°	1248.3	15.5
60°-70°	922.8	11.4
70°-80°	522.1	6.5
80°-90°	137.8	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°	2372.4	29.4
0°-40°	3805.8	47.2
0°-60°	6485.8	80.4
0°-90°	8068.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8068.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3171	3171	3171	3171	3171	
5°	3171	3159	3126	3150	3144	301
15°	3019	3001	2961	2973	2958	850
25°	2732	2708	2656	2662	2656	1257
35°	2357	2327	2278	2260	2244	1472
45°	1918	1897	1851	1818	1805	1480
55°	1452	1433	1397	1360	1345	1298
65°	979	961	930	903	888	968
75°	512	506	491	473	479	547
85°	125	122	119	110	107	147
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3171.2	3171.2	3171.2	3171.2	3171.2
2.5°	3189.7	3174.4	3140.8	3171.2	3165.4
5°	3171.2	3159.3	3125.6	3149.9	3144.0
7.5°	3149.9	3131.7	3098.1	3122.7	3116.6
10°	3116.6	3095.2	3058.6	3082.9	3073.9
12.5°	3070.6	3052.5	3015.9	3031.1	3025.0
15°	3018.8	3000.7	2960.9	2973.2	2958.0
17.5°	2954.8	2936.7	2896.8	2912.1	2896.8
20°	2884.5	2866.4	2823.7	2832.8	2820.8
22.5°	2814.7	2787.2	2747.4	2747.4	2741.3
25°	2732.2	2707.9	2656.2	2662.0	2656.2
27.5°	2640.6	2619.2	2579.8	2570.8	2555.5
30°	2549.4	2524.8	2479.1	2470.1	2457.8
32.5°	2451.7	2433.6	2384.7	2366.3	2354.0
35°	2357.2	2326.8	2277.9	2259.5	2244.3
37.5°	2250.5	2222.9	2174.1	2152.7	2137.5
40°	2140.8	2116.1	2067.3	2040.2	2027.9
42.5°	2034.0	2009.4	1960.9	1930.2	1912.1
45°	1918.2	1896.8	1850.9	1817.5	1805.3
47.5°	1805.3	1784.0	1735.1	1701.4	1683.3
50°	1686.2	1671.0	1628.3	1585.6	1570.4
52.5°	1570.4	1549.1	1509.5	1476.0	1454.6
55°	1451.7	1433.3	1396.7	1360.1	1344.9
57.5°	1332.6	1317.4	1277.6	1241.1	1228.8
60°	1213.5	1201.6	1158.8	1125.2	1116.1
62.5°	1097.7	1076.4	1046.0	1015.6	1003.3
65°	979.0	960.6	930.2	902.6	887.5
67.5°	857.1	841.5	814.3	793.0	780.7
70°	744.1	731.8	704.3	683.0	671.0
72.5°	628.3	616.0	600.8	579.5	570.3
75°	512.1	506.4	490.8	472.7	478.8
77.5°	408.6	396.3	390.1	381.1	372.0
80°	305.1	301.9	295.7	286.6	280.5
82.5°	207.4	207.4	204.5	192.2	192.2
85°	124.9	122.0	119.1	109.7	106.8
87.5°	55.0	48.8	42.7	33.7	30.4
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	14.06	15.67	14.43	15.99	16.30	13.62	15.23	13.98	15.54	15.86
	3H	15.81	17.27	16.19	17.59	17.95	15.32	16.78	15.70	17.10	17.46
	4H	16.46	17.83	16.86	18.17	18.55	15.96	17.33	16.36	17.68	18.06
	6H	16.93	18.20	17.34	18.56	18.95	16.43	17.69	16.84	18.06	18.45
	8H	17.07	18.28	17.49	18.67	19.07	16.57	17.78	16.99	18.17	18.57
	12H	17.16	18.32	17.59	18.70	19.13	16.65	17.81	17.08	18.19	18.62
4H	2H	14.62	15.99	15.02	16.34	16.71	14.27	15.64	14.67	15.99	16.36
	3H	16.60	17.74	17.01	18.14	18.54	16.19	17.34	16.60	17.73	18.13
	4H	17.37	18.41	17.80	18.82	19.26	16.95	17.99	17.38	18.40	18.84
	6H	17.97	18.87	18.42	19.32	19.77	17.54	18.44	17.99	18.88	19.34
	8H	18.16	19.01	18.62	19.45	19.91	17.72	18.57	18.18	19.01	19.48
	12H	18.29	19.05	18.77	19.53	20.00	17.84	18.60	18.32	19.08	19.54
8H	4H	17.65	18.49	18.11	18.94	19.40	17.27	18.12	17.73	18.56	19.03
	6H	18.36	19.06	18.86	19.55	20.03	17.98	18.68	18.47	19.17	19.65
	8H	18.62	19.25	19.13	19.76	20.24	18.23	18.86	18.74	19.37	19.85
	12H	18.82	19.38	19.33	19.87	20.43	18.41	18.96	18.91	19.46	20.02
12H	4H	17.67	18.43	18.15	18.91	19.38	17.31	18.07	17.79	18.54	19.01
	6H	18.41	19.04	18.92	19.55	20.03	18.04	18.67	18.55	19.18	19.66
	8H	18.72	19.28	19.23	19.77	20.33	18.34	18.90	18.85	19.39	19.95