

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: P930771

Luminaire Tested: DFN2DS-PN4F0-110DS935-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930771
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-PN4F0-110DS935-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

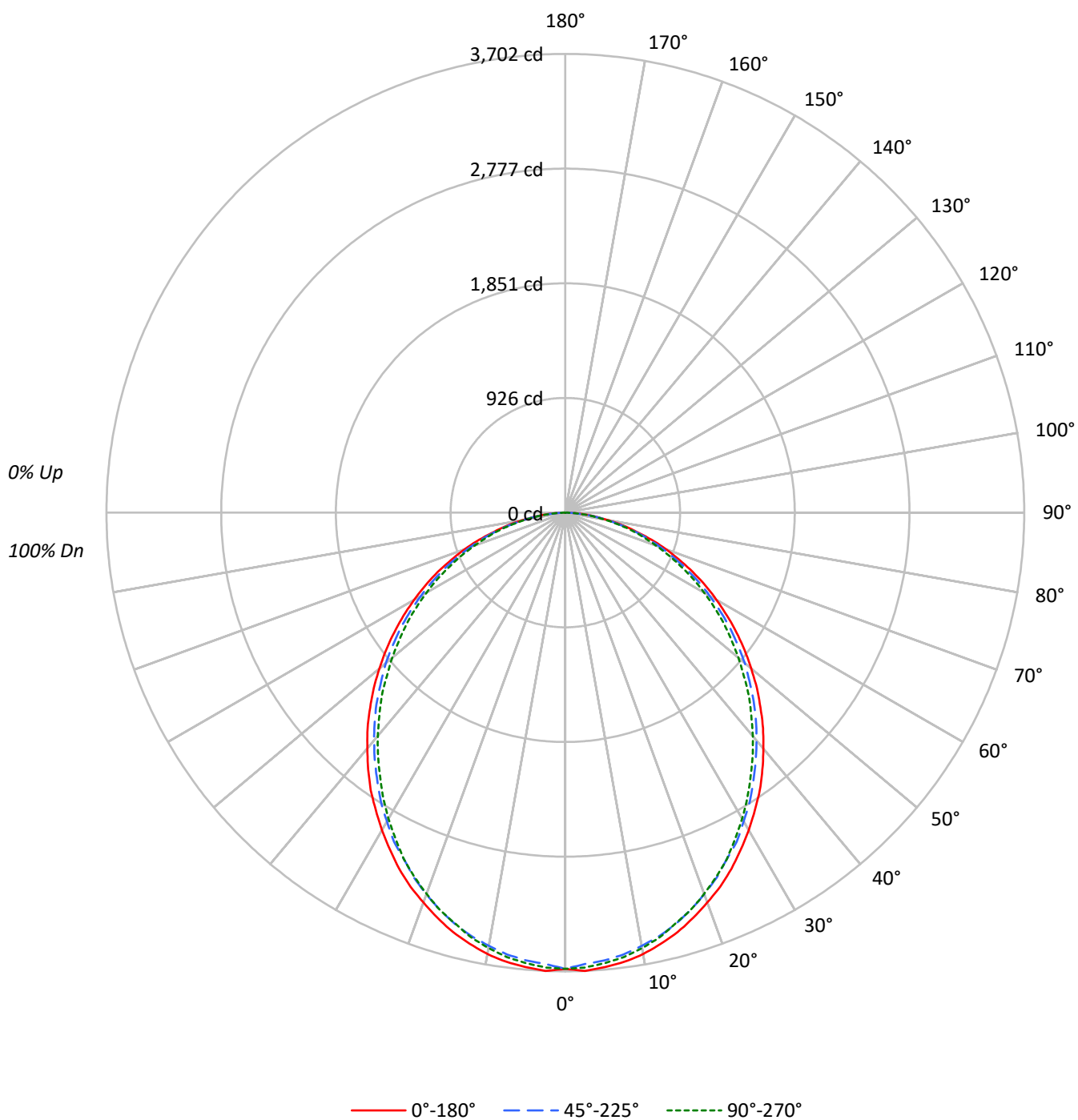
Lumens per Lamp: N/A
Luminaire Lumens: 9365.4 lumens
Efficiency: N/A
Efficacy: 78.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 119
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930771

CATALOG NUMBER: DFN2DS-PN4F0-110DS935-FLL

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°	2687	2687	2687
5°	2697	2658	2674
10°	2681	2632	2645
15°	2648	2597	2595
20°	2601	2546	2543
25°	2554	2483	2483
30°	2494	2425	2405
35°	2438	2356	2321
40°	2368	2287	2243
45°	2298	2218	2163
50°	2223	2146	2070
55°	2144	2063	1987
60°	2056	1964	1891
65°	1963	1865	1779
70°	1843	1745	1662
75°	1676	1607	1568
80°	1489	1443	1369
85°	1214	1157	1038

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2298 cd/sqm

TEST NUMBER: P930771

CATALOG NUMBER: DFN2DS-PN4F0-110DS935-FLL

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	14.72	16.33	15.08	16.64	16.96	14.27	15.88	14.64	16.20	16.51
	3H	16.47	17.92	16.84	18.25	18.61	15.98	17.43	16.35	17.76	18.12
	4H	17.11	18.48	17.51	18.83	19.21	16.62	17.99	17.02	18.34	18.71
	6H	17.58	18.85	17.99	19.22	19.61	17.08	18.35	17.49	18.71	19.10
	8H	17.73	18.94	18.15	19.33	19.72	17.22	18.43	17.65	18.82	19.22
	12H	17.82	18.98	18.24	19.36	19.79	17.30	18.46	17.73	18.85	19.27
4H	2H	15.28	16.65	15.68	16.99	17.37	14.92	16.29	15.32	16.64	17.02
	3H	17.25	18.40	17.66	18.80	19.20	16.85	17.99	17.25	18.39	18.79
	4H	18.03	19.06	18.46	19.48	19.91	17.60	18.64	18.04	19.05	19.49
	6H	18.63	19.53	19.08	19.97	20.43	18.19	19.10	18.65	19.54	19.99
	8H	18.81	19.66	19.28	20.10	20.57	18.38	19.22	18.84	19.67	20.13
	12H	18.95	19.71	19.43	20.18	20.65	18.49	19.25	18.97	19.73	20.20
8H	4H	18.30	19.15	18.76	19.59	20.06	17.93	18.77	18.39	19.22	19.68
	6H	19.02	19.72	19.51	20.21	20.68	18.63	19.34	19.13	19.83	20.30
	8H	19.28	19.91	19.79	20.41	20.90	18.88	19.51	19.39	20.02	20.51
	12H	19.48	20.03	19.98	20.52	21.08	19.06	19.62	19.57	20.11	20.67
12H	4H	18.33	19.09	18.81	19.56	20.03	17.96	18.72	18.44	19.20	19.67
	6H	19.06	19.69	19.57	20.20	20.69	18.69	19.33	19.20	19.83	20.32
	8H	19.38	19.93	19.88	20.42	20.99	19.00	19.56	19.50	20.05	20.61

END OF REPORT

FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE

7 of 7