

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: P931581

Luminaire Tested: DFN2DS-TR4F0-110DS935-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931581
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-TR4F0-110DS935-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

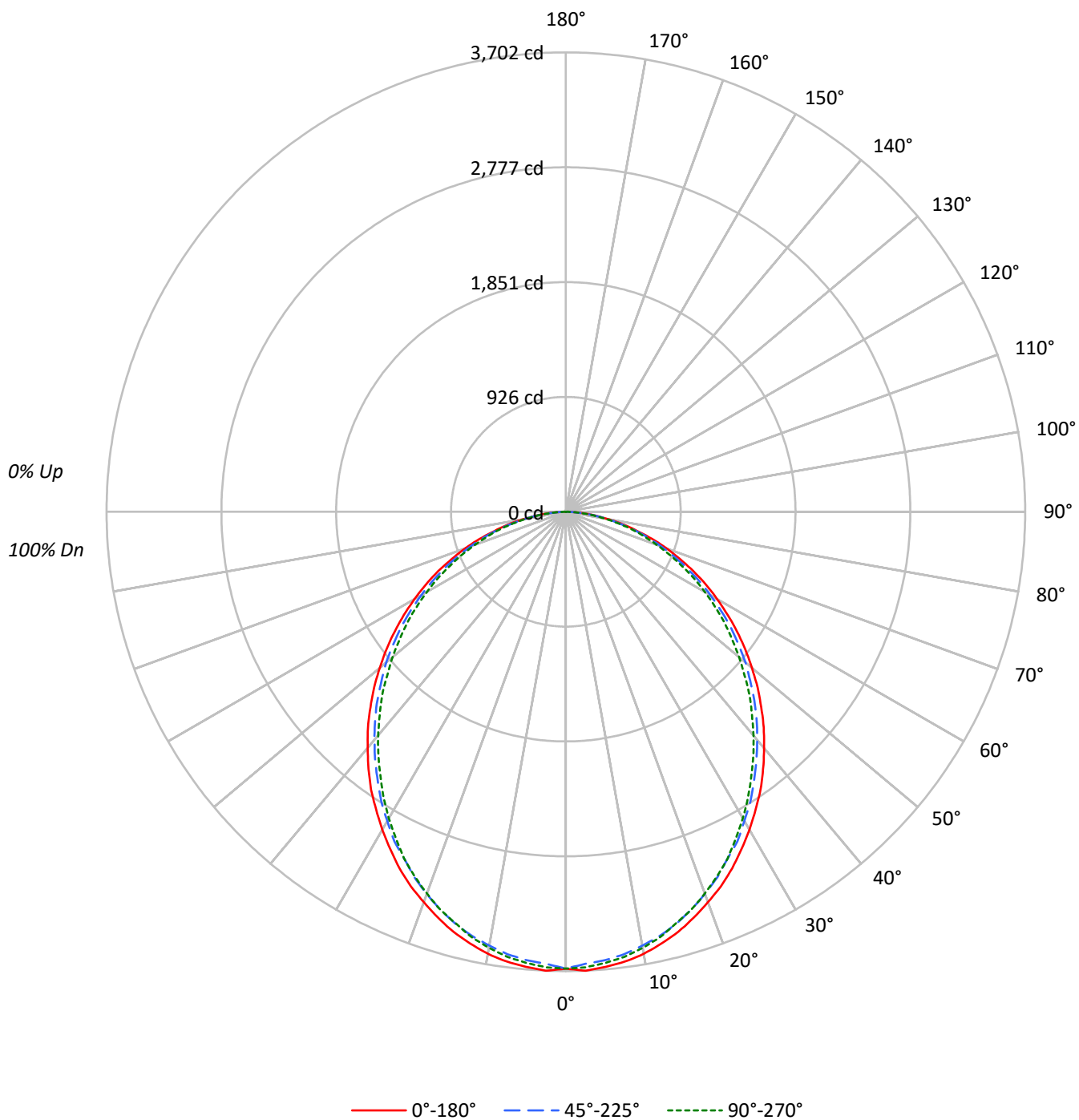
Lumens per Lamp: N/A
Luminaire Lumens: 9365.4 lumens
Efficiency: N/A
Efficacy: 78.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 118.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9613
Total Harmonic Distortion (THDi): 0.083
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°	2924	2924	2924
5°	2935	2893	2910
10°	2918	2864	2878
15°	2882	2827	2824
20°	2831	2771	2768
25°	2780	2703	2703
30°	2715	2640	2617
35°	2654	2564	2526
40°	2577	2489	2441
45°	2501	2414	2354
50°	2419	2336	2253
55°	2334	2245	2162
60°	2238	2137	2059
65°	2136	2029	1936
70°	2006	1899	1809
75°	1824	1749	1706
80°	1620	1570	1490
85°	1322	1260	1129

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2501 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	15.01	16.62	15.38	16.94	17.25	14.57	16.18	14.93	16.49	16.81
	3H	16.76	18.22	17.14	18.54	18.90	16.27	17.72	16.65	18.05	18.41
	4H	17.41	18.78	17.81	19.12	19.50	16.91	18.28	17.31	18.63	19.01
	6H	17.88	19.14	18.29	19.51	19.90	17.37	18.64	17.79	19.01	19.40
	8H	18.02	19.23	18.44	19.62	20.02	17.52	18.73	17.94	19.12	19.52
	12H	18.11	19.27	18.54	19.65	20.08	17.60	18.76	18.03	19.14	19.57
4H	2H	15.57	16.94	15.97	17.29	17.66	15.22	16.59	15.62	16.93	17.31
	3H	17.55	18.69	17.96	19.09	19.49	17.14	18.29	17.55	18.68	19.08
	4H	18.32	19.36	18.75	19.77	20.21	17.90	18.93	18.33	19.35	19.78
	6H	18.92	19.82	19.37	20.26	20.72	18.49	19.39	18.94	19.83	20.29
	8H	19.11	19.96	19.57	20.40	20.86	18.67	19.52	19.13	19.96	20.43
	12H	19.24	20.00	19.72	20.48	20.95	18.79	19.55	19.27	20.02	20.49
8H	4H	18.60	19.44	19.06	19.89	20.35	18.22	19.07	18.68	19.51	19.98
	6H	19.31	20.01	19.80	20.50	20.98	18.93	19.63	19.42	20.12	20.60
	8H	19.57	20.20	20.08	20.71	21.19	19.18	19.81	19.69	20.32	20.80
	12H	19.77	20.33	20.28	20.82	21.38	19.36	19.91	19.86	20.40	20.97
12H	4H	18.62	19.38	19.10	19.86	20.33	18.26	19.02	18.74	19.49	19.96
	6H	19.36	19.99	19.87	20.49	20.98	18.99	19.62	19.50	20.13	20.61
	8H	19.67	20.23	20.18	20.72	21.28	19.29	19.85	19.80	20.34	20.90

END OF REPORT