

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: P930393

Luminaire Tested: DFN2DS-HX4F0-110DS935-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930393
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-HX4F0-110DS935-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

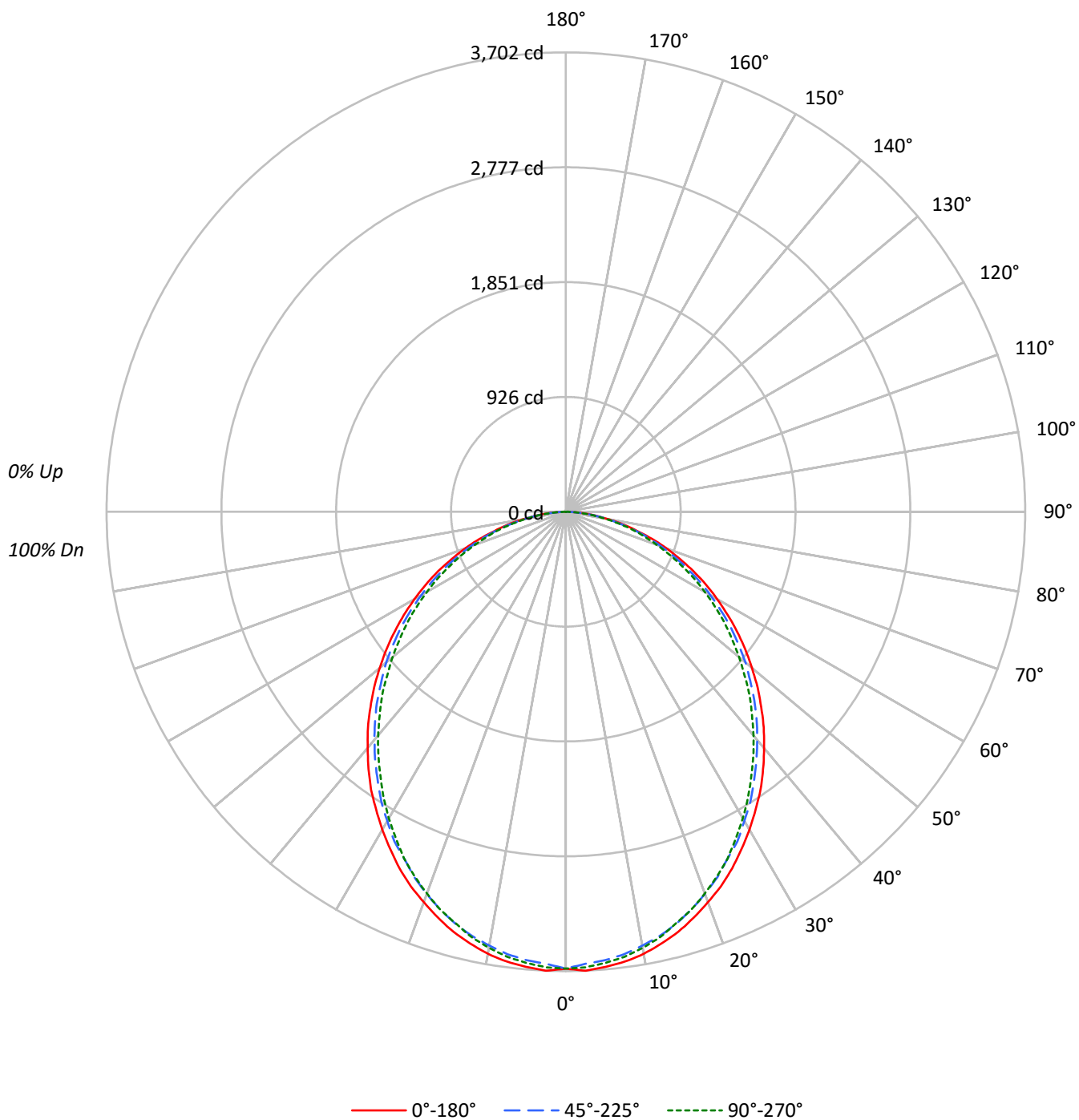
Lumens per Lamp: N/A
Luminaire Lumens: 9365.4 lumens
Efficiency: N/A
Efficacy: 80.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 117.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
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			0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37	32	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2737	2737	2737
5°	2748	2708	2724
10°	2731	2681	2694
15°	2697	2646	2643
20°	2649	2594	2591
25°	2602	2529	2529
30°	2541	2471	2449
35°	2484	2400	2365
40°	2412	2329	2285
45°	2341	2259	2204
50°	2264	2186	2109
55°	2184	2102	2024
60°	2095	2000	1927
65°	1999	1899	1812
70°	1878	1777	1693
75°	1708	1637	1597
80°	1516	1470	1394
85°	1237	1179	1057

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2341 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	14.78	16.39	15.15	16.71	17.02	14.34	15.95	14.70	16.26	16.58
	3H	16.53	17.99	16.91	18.31	18.67	16.04	17.49	16.42	17.82	18.18
	4H	17.18	18.55	17.58	18.89	19.27	16.68	18.05	17.08	18.40	18.78
	6H	17.65	18.91	18.06	19.28	19.67	17.15	18.41	17.56	18.78	19.17
	8H	17.79	19.00	18.21	19.39	19.79	17.29	18.50	17.71	18.89	19.29
	12H	17.88	19.04	18.31	19.42	19.85	17.37	18.53	17.80	18.91	19.34
4H	2H	15.34	16.71	15.74	17.06	17.43	14.99	16.36	15.39	16.71	17.08
	3H	17.32	18.46	17.73	18.86	19.26	16.91	18.06	17.32	18.45	18.85
	4H	18.09	19.13	18.52	19.54	19.98	17.67	18.70	18.10	19.12	19.55
	6H	18.69	19.59	19.14	20.03	20.49	18.26	19.16	18.71	19.60	20.06
	8H	18.88	19.73	19.34	20.17	20.63	18.44	19.29	18.90	19.73	20.20
	12H	19.01	19.77	19.49	20.25	20.72	18.56	19.32	19.04	19.79	20.26
8H	4H	18.37	19.21	18.83	19.66	20.12	17.99	18.84	18.45	19.28	19.75
	6H	19.08	19.78	19.57	20.27	20.75	18.70	19.40	19.19	19.89	20.37
	8H	19.34	19.97	19.85	20.48	20.96	18.95	19.58	19.46	20.09	20.57
	12H	19.54	20.10	20.05	20.59	21.15	19.13	19.68	19.63	20.17	20.74
12H	4H	18.39	19.15	18.87	19.63	20.10	18.03	18.79	18.51	19.26	19.73
	6H	19.13	19.76	19.64	20.26	20.75	18.76	19.39	19.27	19.90	20.38
	8H	19.44	20.00	19.95	20.49	21.05	19.06	19.62	19.57	20.11	20.67