

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: P930387

Luminaire Tested: DFN2DS-HX4F0-110DS850-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930387
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-HX4F0-110DS850-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

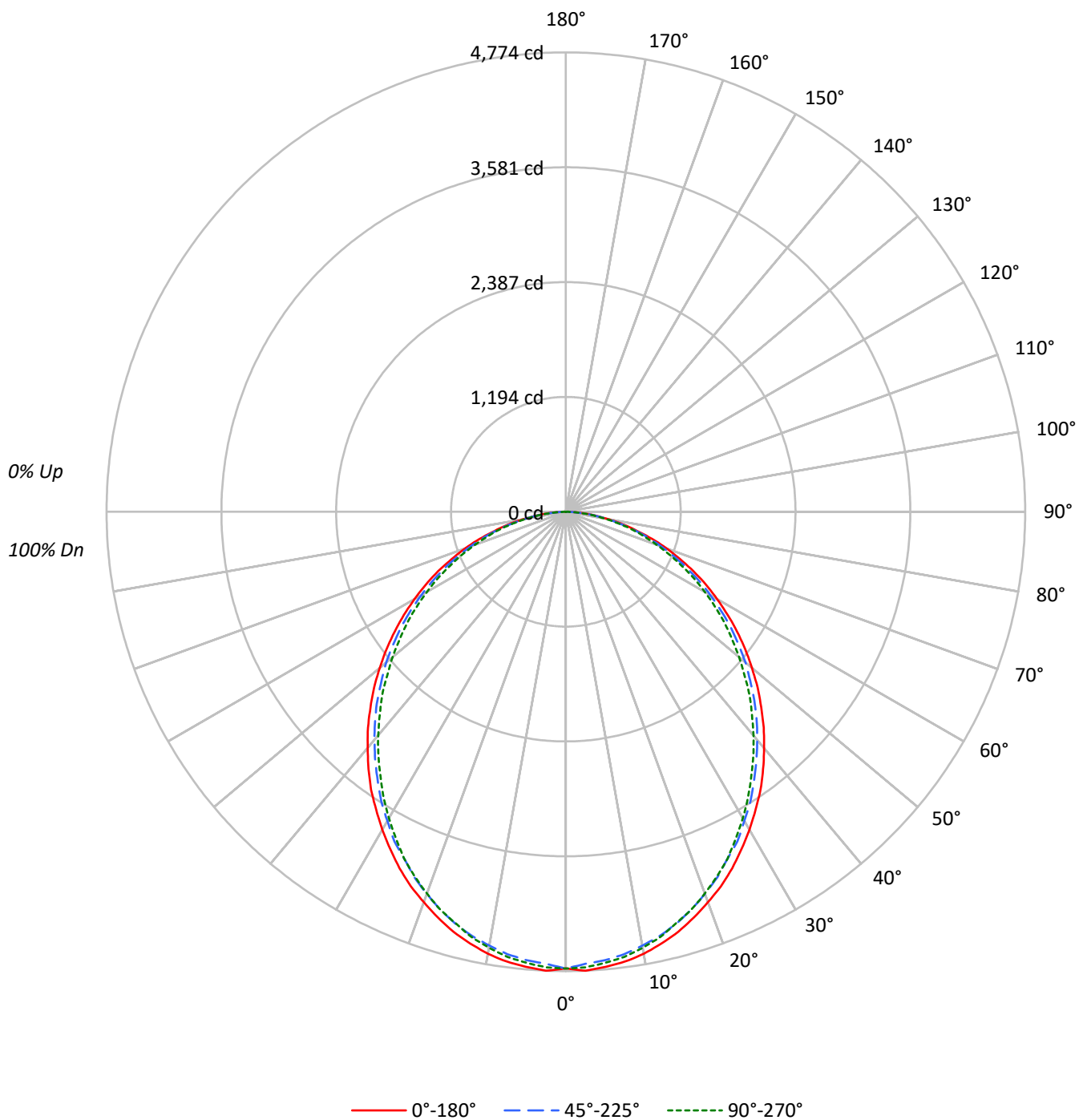
Lumens per Lamp: N/A
Luminaire Lumens: 12077.0 lumens
Efficiency: N/A
Efficacy: 103.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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
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°	3529	3529	3529
5°	3543	3492	3513
10°	3522	3457	3474
15°	3478	3412	3408
20°	3417	3344	3341
25°	3355	3262	3262
30°	3276	3186	3159
35°	3203	3095	3049
40°	3110	3004	2946
45°	3019	2913	2842
50°	2920	2819	2719
55°	2817	2710	2610
60°	2701	2580	2485
65°	2578	2449	2337
70°	2421	2292	2183
75°	2202	2110	2059
80°	1956	1895	1798
85°	1595	1520	1363

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3019 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	446.8	3.7
10°-20°	1257.0	10.4
20°-30°	1847.3	15.3
30°-40°	2145.5	17.8
40°-50°	2142.9	17.7
50°-60°	1868.5	15.5
60°-70°	1381.3	11.4
70°-80°	781.5	6.5
80°-90°	206.3	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°	3551.1	29.4
0°-40°	5696.6	47.2
0°-60°	9708.0	80.4
0°-90°	12077.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12077.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4747	4747	4747	4747	4747	
5°	4747	4729	4678	4715	4706	451
15°	4519	4491	4432	4450	4428	1273
25°	4090	4053	3976	3984	3976	1882
35°	3528	3483	3410	3382	3359	2203
45°	2871	2839	2770	2721	2702	2216
55°	2173	2145	2091	2036	2013	1943
65°	1465	1438	1392	1351	1328	1449
75°	766	758	735	708	717	818
85°	187	182	178	164	160	220
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4746.7	4746.7	4746.7	4746.7	4746.7
2.5°	4774.2	4751.5	4701.2	4746.7	4738.0
5°	4746.7	4728.8	4678.4	4714.7	4706.0
7.5°	4714.7	4687.6	4637.3	4674.1	4664.9
10°	4664.9	4632.8	4578.2	4614.4	4600.9
12.5°	4596.1	4569.0	4514.3	4537.0	4527.8
15°	4518.6	4491.4	4431.9	4450.3	4427.6
17.5°	4422.7	4395.6	4336.1	4358.8	4336.1
20°	4317.7	4290.5	4226.6	4240.2	4222.3
22.5°	4213.1	4171.8	4112.3	4112.3	4103.1
25°	4089.5	4053.3	3975.8	3984.5	3975.8
27.5°	3952.5	3920.5	3861.4	3847.9	3825.2
30°	3816.0	3779.1	3710.8	3697.3	3678.9
32.5°	3669.7	3642.6	3569.4	3541.8	3523.4
35°	3528.3	3482.8	3409.6	3382.0	3359.3
37.5°	3368.5	3327.3	3254.2	3222.2	3199.5
40°	3204.3	3167.5	3094.4	3053.7	3035.3
42.5°	3044.5	3007.7	2935.1	2889.1	2862.0
45°	2871.2	2839.2	2770.4	2720.6	2702.2
47.5°	2702.2	2670.3	2597.1	2546.7	2519.5
50°	2524.0	2501.2	2437.2	2373.4	2350.6
52.5°	2350.6	2318.6	2259.6	2209.1	2177.2
55°	2172.9	2145.2	2090.6	2035.8	2013.1
57.5°	1994.6	1971.9	1912.4	1857.6	1839.2
60°	1816.4	1798.6	1734.6	1684.2	1670.7
62.5°	1643.1	1611.2	1565.6	1520.1	1501.7
65°	1465.3	1437.7	1392.2	1351.1	1328.4
67.5°	1282.8	1259.6	1218.9	1187.0	1168.6
70°	1113.8	1095.4	1054.2	1022.3	1004.3
72.5°	940.4	922.0	899.3	867.3	853.7
75°	766.5	757.9	734.6	707.5	716.7
77.5°	611.6	593.2	584.0	570.5	556.9
80°	456.7	451.8	442.6	429.1	419.9
82.5°	310.4	310.4	306.1	287.7	287.7
85°	187.0	182.5	178.2	164.1	159.8
87.5°	82.3	73.1	63.9	50.3	45.5
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	15.66	17.27	16.03	17.59	17.90	15.22	16.83	15.58	17.14	17.46
	3H	17.41	18.87	17.79	19.20	19.56	16.92	18.38	17.30	18.70	19.06
	4H	18.06	19.43	18.46	19.78	20.15	17.57	18.93	17.96	19.28	19.66
	6H	18.53	19.80	18.94	20.16	20.55	18.03	19.30	18.44	19.66	20.05
	8H	18.67	19.88	19.10	20.27	20.67	18.17	19.38	18.59	19.77	20.17
	12H	18.76	19.92	19.19	20.30	20.73	18.25	19.41	18.68	19.79	20.22
4H	2H	16.22	17.59	16.62	17.94	18.32	15.87	17.24	16.27	17.59	17.96
	3H	18.20	19.35	18.61	19.74	20.14	17.79	18.94	18.20	19.34	19.74
	4H	18.98	20.01	19.41	20.43	20.86	18.55	19.59	18.98	20.00	20.44
	6H	19.57	20.48	20.03	20.92	21.37	19.14	20.05	19.59	20.49	20.94
	8H	19.76	20.61	20.22	21.05	21.52	19.32	20.17	19.79	20.61	21.08
	12H	19.89	20.65	20.37	21.13	21.60	19.44	20.20	19.92	20.68	21.15
8H	4H	19.25	20.10	19.71	20.54	21.00	18.88	19.72	19.34	20.16	20.63
	6H	19.96	20.67	20.46	21.16	21.63	19.58	20.29	20.08	20.77	21.25
	8H	20.22	20.85	20.73	21.36	21.85	19.83	20.46	20.34	20.97	21.46
	12H	20.42	20.98	20.93	21.47	22.03	20.01	20.57	20.52	21.06	21.62
12H	4H	19.28	20.04	19.76	20.51	20.98	18.91	19.67	19.39	20.15	20.62
	6H	20.01	20.64	20.52	21.15	21.63	19.64	20.27	20.15	20.78	21.27
	8H	20.32	20.88	20.83	21.37	21.93	19.95	20.50	20.45	20.99	21.56