

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: P930388

Luminaire Tested: DFN2DS-HX4F0-110DS850-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930388
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-HX4F0-110DS850-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

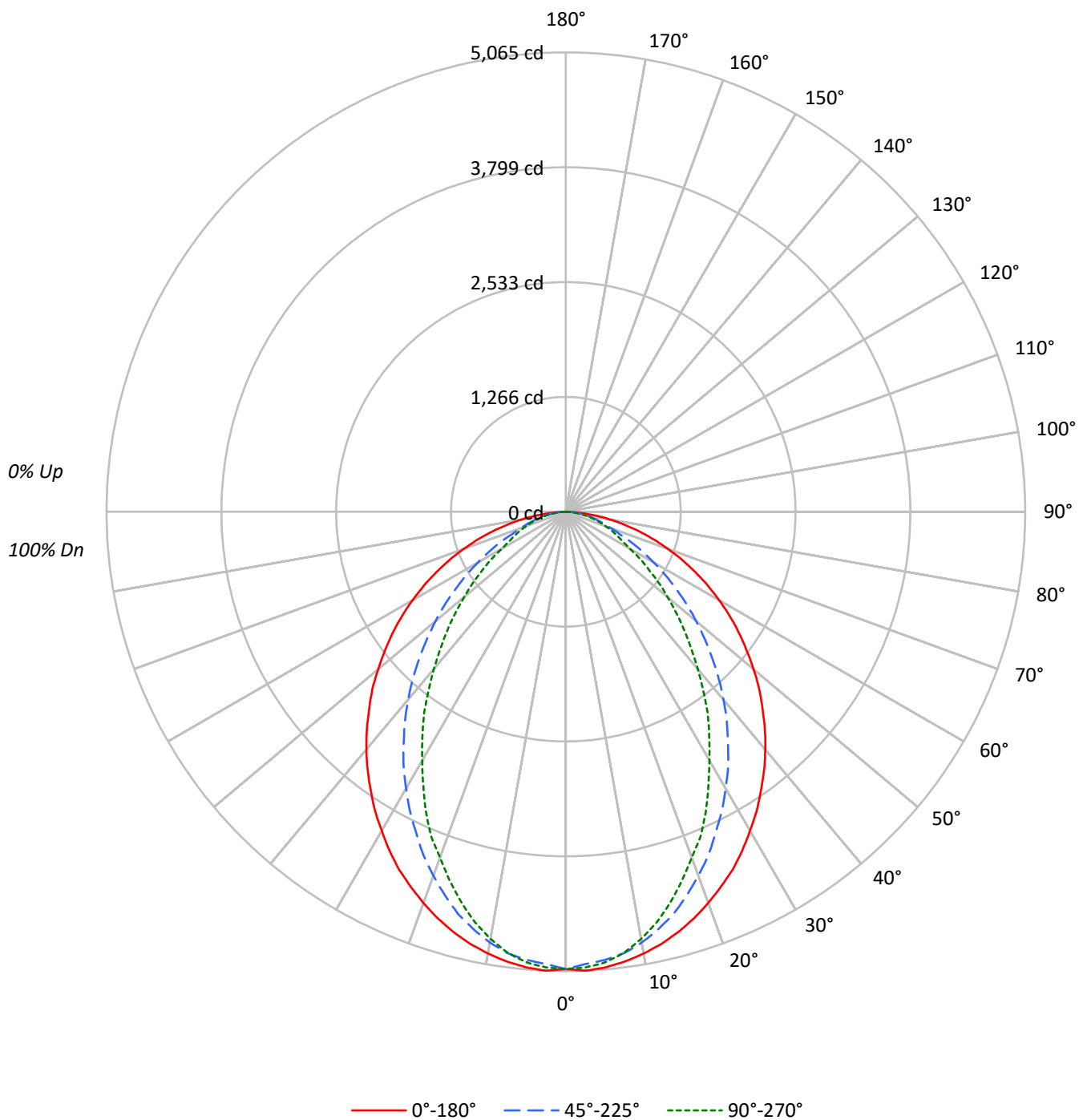
Lumens per Lamp: N/A
Luminaire Lumens: 10369.2 lumens
Efficiency: N/A
Efficacy: 88.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3749	3749	3749
5°	3763	3702	3722
10°	3734	3642	3611
15°	3691	3534	3432
20°	3632	3379	3210
25°	3571	3204	2995
30°	3487	3024	2719
35°	3405	2829	2477
40°	3322	2626	2197
45°	3224	2399	1943
50°	3125	2169	1695
55°	3022	1922	1455
60°	2904	1662	1208
65°	2770	1397	1099
70°	2609	1150	1011
75°	2412	1049	944
80°	2129	937	861
85°	1673	739	739

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3224 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	472.5	4.6
10°-20°	1297.2	12.5
20°-30°	1821.2	17.6
30°-40°	1985.2	19.1
40°-50°	1824.6	17.6
50°-60°	1433.0	13.8
60°-70°	932.7	9.0
70°-80°	480.1	4.6
80°-90°	122.6	1.2
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°	3590.9	34.6
0°-40°	5576.1	53.8
0°-60°	8833.7	85.2
0°-90°	10369.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10369.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5042	5042	5042	5042	5042	
5°	5042	5019	4960	5001	4987	478
15°	4795	4745	4590	4504	4458	1351
25°	4353	4207	3906	3719	3650	2002
35°	3751	3518	3117	2829	2728	2348
45°	3066	2760	2282	1957	1848	2368
55°	2331	1976	1483	1209	1123	2083
65°	1574	1204	794	639	625	1561
75°	839	520	365	333	329	888
85°	196	100	87	87	87	235
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5041.8	5041.8	5041.8	5041.8	5041.8
2.5°	5064.6	5041.8	4991.5	5037.5	5028.3
5°	5041.8	5019.1	4959.6	5000.7	4987.2
7.5°	5000.7	4973.5	4909.7	4927.6	4904.8
10°	4946.0	4914.0	4823.0	4809.0	4781.9
12.5°	4877.7	4836.6	4713.1	4686.0	4635.6
15°	4795.4	4745.1	4590.2	4503.5	4458.0
17.5°	4699.6	4626.5	4434.8	4334.5	4261.4
20°	4590.2	4498.7	4270.6	4156.9	4056.2
22.5°	4471.6	4366.5	4101.7	3946.8	3878.5
25°	4352.9	4206.8	3905.7	3718.8	3650.1
27.5°	4211.6	4056.2	3723.1	3508.7	3403.6
30°	4061.0	3887.3	3522.3	3289.8	3166.4
32.5°	3914.9	3704.7	3331.0	3057.1	2942.8
35°	3750.7	3517.9	3116.6	2829.1	2728.4
37.5°	3591.1	3339.8	2915.7	2600.5	2486.8
40°	3422.0	3148.6	2705.6	2381.7	2263.1
42.5°	3248.7	2956.8	2496.0	2158.1	2044.3
45°	3066.3	2760.3	2281.5	1957.2	1847.8
47.5°	2892.9	2569.1	2076.3	1751.9	1651.7
50°	2701.2	2377.4	1875.4	1560.3	1464.9
52.5°	2513.9	2171.6	1683.7	1382.6	1295.9
55°	2331.3	1975.6	1482.7	1209.3	1122.6
57.5°	2144.6	1779.5	1305.1	1049.6	976.4
60°	1952.8	1587.9	1117.8	885.4	812.3
62.5°	1766.0	1401.0	958.1	739.3	702.9
65°	1574.2	1204.4	793.9	639.0	624.9
67.5°	1391.8	1021.9	639.0	561.0	547.5
70°	1200.0	844.3	529.1	483.6	465.2
72.5°	1017.5	679.7	442.5	406.1	396.9
75°	839.4	519.9	365.0	333.0	328.7
77.5°	661.7	369.4	287.6	269.2	259.9
80°	497.2	264.8	218.8	201.0	201.0
82.5°	346.6	178.1	150.6	141.4	141.4
85°	196.1	100.3	86.6	86.6	86.6
87.5°	73.1	36.3	36.3	31.9	31.9
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	15.83	17.35	16.19	17.66	17.98	11.79	13.31	12.15	13.62	13.94
	3H	17.59	18.96	17.97	19.28	19.65	13.05	14.42	13.43	14.74	15.11
	4H	18.26	19.54	18.66	19.89	20.27	13.55	14.83	13.95	15.18	15.56
	6H	18.75	19.93	19.16	20.30	20.69	13.93	15.12	14.35	15.48	15.88
	8H	18.91	20.04	19.34	20.43	20.83	14.06	15.19	14.49	15.58	15.98
	12H	19.02	20.09	19.45	20.48	20.90	14.14	15.22	14.57	15.60	16.03
4H	2H	15.93	17.21	16.33	17.56	17.94	12.48	13.76	12.88	14.11	14.49
	3H	17.86	18.93	18.27	19.33	19.73	13.93	14.99	14.34	15.39	15.79
	4H	18.61	19.57	19.05	19.98	20.42	14.52	15.48	14.96	15.90	16.34
	6H	19.20	20.04	19.66	20.48	20.94	15.01	15.84	15.47	16.29	16.75
	8H	19.42	20.20	19.88	20.64	21.11	15.17	15.95	15.64	16.40	16.86
	12H	19.57	20.27	20.05	20.75	21.22	15.29	15.99	15.77	16.46	16.94
8H	4H	18.64	19.41	19.10	19.86	20.33	14.88	15.66	15.34	16.10	16.57
	6H	19.27	19.92	19.77	20.41	20.89	15.47	16.11	15.96	16.60	17.08
	8H	19.52	20.10	20.04	20.61	21.10	15.69	16.26	16.20	16.77	17.26
	12H	19.73	20.24	20.24	20.73	21.30	15.87	16.38	16.38	16.87	17.43
12H	4H	18.62	19.32	19.10	19.79	20.27	14.92	15.62	15.40	16.09	16.57
	6H	19.26	19.83	19.77	20.34	20.83	15.53	16.11	16.04	16.62	17.10
	8H	19.54	20.05	20.05	20.54	21.11	15.80	16.31	16.31	16.80	17.37