

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: P930407

Luminaire Tested: DFN2DS-HX4F0-120DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930407
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-HX4F0-120DS927-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

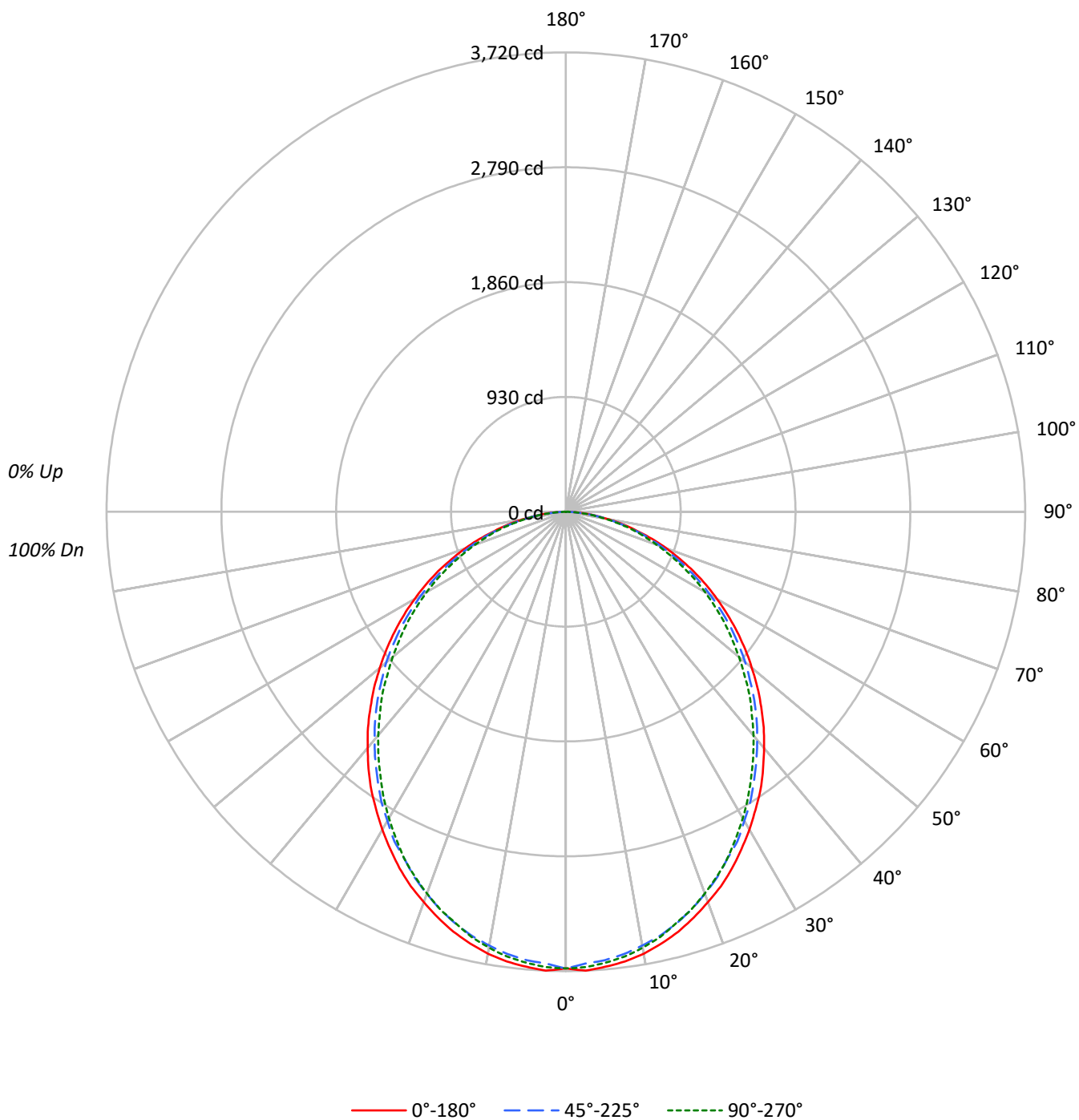
Lumens per Lamp: N/A
Luminaire Lumens: 9408.9 lumens
Efficiency: N/A
Efficacy: 71.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 131
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9954
Total Harmonic Distortion (THDi): 0.076
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°	2750	2750	2750
5°	2760	2721	2737
10°	2744	2693	2706
15°	2710	2658	2655
20°	2662	2606	2603
25°	2614	2541	2541
30°	2553	2482	2461
35°	2495	2411	2376
40°	2423	2340	2295
45°	2352	2270	2214
50°	2275	2196	2118
55°	2194	2111	2033
60°	2104	2010	1936
65°	2009	1908	1821
70°	1886	1786	1701
75°	1716	1644	1604
80°	1524	1476	1401
85°	1242	1184	1062

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2352 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	348.1	3.7
10°-20°	979.3	10.4
20°-30°	1439.2	15.3
30°-40°	1671.6	17.8
40°-50°	1669.5	17.7
50°-60°	1455.7	15.5
60°-70°	1076.1	11.4
70°-80°	608.8	6.5
80°-90°	160.7	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°	2766.6	29.4
0°-40°	4438.1	47.2
0°-60°	7563.3	80.4
0°-90°	9408.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9408.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3698	3698	3698	3698	3698	
5°	3698	3684	3645	3673	3666	351
15°	3520	3499	3453	3467	3449	991
25°	3186	3158	3097	3104	3097	1466
35°	2749	2713	2656	2635	2617	1717
45°	2237	2212	2158	2120	2105	1726
55°	1693	1671	1629	1586	1568	1513
65°	1142	1120	1085	1053	1035	1129
75°	597	590	572	551	558	638
85°	146	142	139	128	124	171
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3698.1	3698.1	3698.1	3698.1	3698.1
2.5°	3719.5	3701.8	3662.6	3698.1	3691.3
5°	3698.1	3684.1	3644.9	3673.1	3666.3
7.5°	3673.1	3652.0	3612.8	3641.5	3634.3
10°	3634.3	3609.4	3566.8	3595.0	3584.5
12.5°	3580.7	3559.6	3517.0	3534.7	3527.5
15°	3520.4	3499.2	3452.8	3467.1	3449.4
17.5°	3445.7	3424.5	3378.1	3395.9	3378.1
20°	3363.8	3342.6	3292.9	3303.4	3289.5
22.5°	3282.3	3250.2	3203.8	3203.8	3196.7
25°	3186.1	3157.8	3097.4	3104.2	3097.4
27.5°	3079.3	3054.4	3008.4	2997.8	2980.1
30°	2972.9	2944.3	2891.0	2880.5	2866.2
32.5°	2859.0	2837.9	2780.9	2759.4	2745.1
35°	2748.8	2713.4	2656.4	2634.9	2617.2
37.5°	2624.3	2592.3	2535.3	2510.4	2492.7
40°	2496.5	2467.8	2410.8	2379.1	2364.8
42.5°	2372.0	2343.3	2286.7	2250.9	2229.7
45°	2236.8	2212.0	2158.4	2119.6	2105.2
47.5°	2105.2	2080.3	2023.3	1984.1	1963.0
50°	1966.4	1948.6	1898.8	1849.0	1831.3
52.5°	1831.3	1806.4	1760.4	1721.1	1696.2
55°	1692.8	1671.4	1628.7	1586.1	1568.3
57.5°	1554.0	1536.2	1489.8	1447.2	1432.9
60°	1415.1	1401.2	1351.4	1312.2	1301.6
62.5°	1280.1	1255.2	1219.8	1184.3	1169.9
65°	1141.7	1120.1	1084.6	1052.6	1034.9
67.5°	999.4	981.3	949.6	924.7	910.4
70°	867.7	853.4	821.3	796.4	782.5
72.5°	732.7	718.3	700.6	675.7	665.1
75°	597.2	590.4	572.3	551.2	558.4
77.5°	476.5	462.1	455.0	444.4	433.9
80°	355.8	352.0	344.8	334.3	327.1
82.5°	241.8	241.8	238.5	224.1	224.1
85°	145.6	142.2	138.8	127.9	124.5
87.5°	64.2	56.9	49.8	39.2	35.5
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	14.80	16.41	15.16	16.72	17.04	14.35	15.96	14.72	16.28	16.59
	3H	16.55	18.00	16.92	18.33	18.69	16.06	17.51	16.43	17.84	18.20
	4H	17.19	18.56	17.59	18.91	19.29	16.70	18.07	17.10	18.42	18.79
	6H	17.66	18.93	18.07	19.30	19.69	17.16	18.43	17.57	18.79	19.19
	8H	17.81	19.02	18.23	19.41	19.80	17.30	18.51	17.73	18.90	19.30
	12H	17.90	19.06	18.33	19.44	19.87	17.38	18.54	17.81	18.93	19.35
4H	2H	15.36	16.73	15.76	17.07	17.45	15.00	16.37	15.40	16.72	17.10
	3H	17.33	18.48	17.74	18.88	19.28	16.93	18.07	17.34	18.47	18.87
	4H	18.11	19.14	18.54	19.56	19.99	17.69	18.72	18.12	19.13	19.57
	6H	18.71	19.61	19.16	20.05	20.51	18.27	19.18	18.73	19.62	20.07
	8H	18.89	19.74	19.36	20.18	20.65	18.46	19.30	18.92	19.75	20.21
	12H	19.03	19.79	19.51	20.26	20.73	18.57	19.33	19.05	19.81	20.28
8H	4H	18.38	19.23	18.84	19.67	20.14	18.01	18.85	18.47	19.30	19.76
	6H	19.10	19.80	19.59	20.29	20.76	18.71	19.42	19.21	19.91	20.38
	8H	19.36	19.99	19.87	20.49	20.98	18.96	19.59	19.47	20.10	20.59
	12H	19.56	20.11	20.06	20.60	21.16	19.14	19.70	19.65	20.19	20.75
12H	4H	18.41	19.17	18.89	19.64	20.11	18.04	18.80	18.52	19.28	19.75
	6H	19.14	19.77	19.65	20.28	20.77	18.77	19.41	19.28	19.91	20.40
	8H	19.46	20.01	19.96	20.50	21.07	19.08	19.64	19.58	20.13	20.69