

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: P930409

Luminaire Tested: DFN2DS-HX4F0-120DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930409
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-HX4F0-120DS930-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

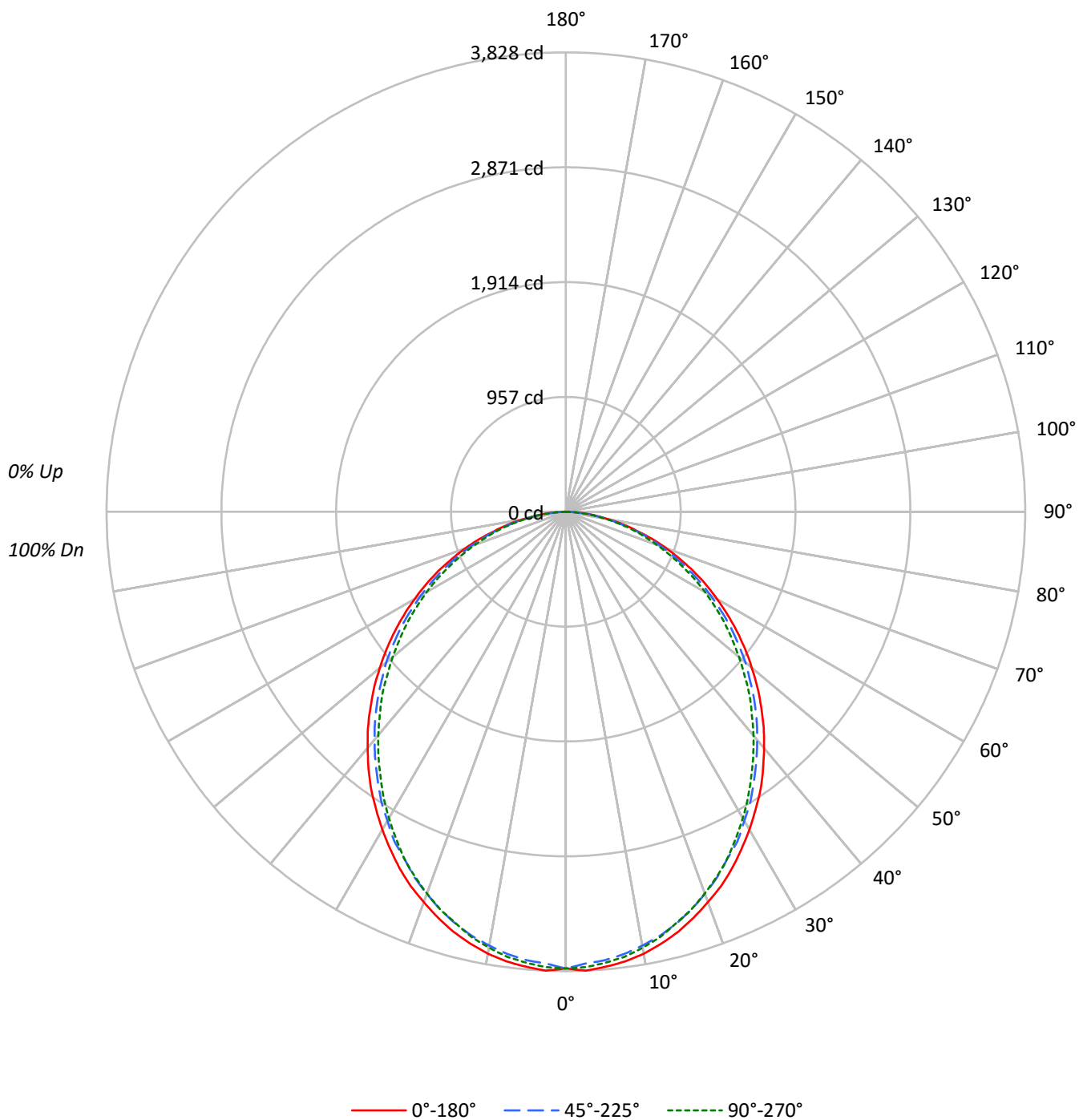
Lumens per Lamp: N/A
Luminaire Lumens: 9682.2 lumens
Efficiency: N/A
Efficacy: 73.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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
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°	2830	2830	2830
5°	2840	2800	2816
10°	2824	2771	2785
15°	2789	2735	2732
20°	2739	2681	2678
25°	2690	2615	2615
30°	2627	2554	2532
35°	2568	2481	2445
40°	2494	2408	2362
45°	2420	2336	2278
50°	2341	2260	2180
55°	2258	2173	2092
60°	2166	2068	1992
65°	2067	1964	1874
70°	1941	1837	1751
75°	1766	1692	1651
80°	1568	1520	1441
85°	1279	1219	1093

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2420 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	358.2	3.7
10°-20°	1007.7	10.4
20°-30°	1481.0	15.3
30°-40°	1720.1	17.8
40°-50°	1718.0	17.7
50°-60°	1498.0	15.5
60°-70°	1107.4	11.4
70°-80°	626.5	6.5
80°-90°	165.4	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°	2846.9	29.4
0°-40°	4567.0	47.2
0°-60°	7783.0	80.4
0°-90°	9682.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9682.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3806	3806	3806	3806	3806	
5°	3806	3791	3751	3780	3773	361
15°	3623	3601	3553	3568	3550	1020
25°	3279	3250	3187	3194	3187	1509
35°	2829	2792	2734	2711	2693	1766
45°	2302	2276	2221	2181	2166	1776
55°	1742	1720	1676	1632	1614	1557
65°	1175	1153	1116	1083	1065	1162
75°	615	608	589	567	575	656
85°	150	146	143	132	128	176
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3805.5	3805.5	3805.5	3805.5	3805.5
2.5°	3827.6	3809.3	3769.0	3805.5	3798.5
5°	3805.5	3791.1	3750.7	3779.8	3772.8
7.5°	3779.8	3758.0	3717.7	3747.2	3739.9
10°	3739.9	3714.2	3670.4	3699.4	3688.6
12.5°	3684.7	3662.9	3619.1	3637.3	3629.9
15°	3622.6	3600.8	3553.1	3567.8	3549.6
17.5°	3545.7	3524.0	3476.2	3494.5	3476.2
20°	3461.5	3439.7	3388.5	3399.4	3385.0
22.5°	3377.6	3344.6	3296.8	3296.8	3289.5
25°	3278.6	3249.5	3187.4	3194.4	3187.4
27.5°	3168.7	3143.1	3095.8	3084.9	3066.7
30°	3059.3	3029.8	2975.0	2964.2	2949.4
32.5°	2942.0	2920.3	2861.6	2839.5	2824.8
35°	2828.6	2792.2	2733.5	2711.4	2693.2
37.5°	2700.5	2667.6	2608.9	2583.3	2565.0
40°	2569.0	2539.5	2480.8	2448.2	2433.4
42.5°	2440.8	2411.3	2353.1	2316.2	2294.5
45°	2301.8	2276.2	2221.0	2181.1	2166.4
47.5°	2166.4	2140.7	2082.1	2041.7	2020.0
50°	2023.5	2005.2	1954.0	1902.7	1884.4
52.5°	1884.4	1858.9	1811.5	1771.1	1745.5
55°	1742.0	1719.9	1676.0	1632.1	1613.9
57.5°	1599.1	1580.9	1533.1	1489.2	1474.5
60°	1456.2	1441.9	1390.6	1350.3	1339.4
62.5°	1317.3	1291.6	1255.2	1218.7	1203.9
65°	1174.8	1152.7	1116.1	1083.1	1065.0
67.5°	1028.4	1009.8	977.2	951.6	936.8
70°	892.9	878.2	845.2	819.6	805.2
72.5°	754.0	739.2	720.9	695.4	684.4
75°	614.6	607.6	588.9	567.2	574.6
77.5°	490.3	475.6	468.2	457.3	446.5
80°	366.1	362.2	354.9	344.0	336.6
82.5°	248.8	248.8	245.4	230.6	230.6
85°	149.9	146.4	142.9	131.6	128.1
87.5°	66.0	58.6	51.3	40.3	36.5
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	14.90	16.51	15.26	16.82	17.14	14.45	16.06	14.82	16.38	16.69
	3H	16.65	18.10	17.02	18.43	18.79	16.16	17.61	16.53	17.94	18.30
	4H	17.29	18.66	17.69	19.01	19.39	16.80	18.17	17.20	18.51	18.89
	6H	17.76	19.03	18.17	19.40	19.79	17.26	18.53	17.67	18.89	19.28
	8H	17.90	19.12	18.33	19.50	19.90	17.40	18.61	17.83	19.00	19.40
	12H	18.00	19.16	18.42	19.54	19.97	17.48	18.64	17.91	19.02	19.45
4H	2H	15.46	16.83	15.86	17.17	17.55	15.10	16.47	15.50	16.82	17.20
	3H	17.43	18.58	17.84	18.98	19.38	17.03	18.17	17.43	18.57	18.97
	4H	18.21	19.24	18.64	19.66	20.09	17.78	18.82	18.22	19.23	19.67
	6H	18.81	19.71	19.26	20.15	20.61	18.37	19.28	18.83	19.72	20.17
	8H	18.99	19.84	19.45	20.28	20.75	18.56	19.40	19.02	19.85	20.31
	12H	19.13	19.89	19.61	20.36	20.83	18.67	19.43	19.15	19.91	20.38
8H	4H	18.48	19.33	18.94	19.77	20.24	18.11	18.95	18.57	19.40	19.86
	6H	19.20	19.90	19.69	20.39	20.86	18.81	19.52	19.31	20.01	20.48
	8H	19.46	20.09	19.97	20.59	21.08	19.06	19.69	19.57	20.20	20.69
	12H	19.66	20.21	20.16	20.70	21.26	19.24	19.80	19.75	20.29	20.85
12H	4H	18.51	19.27	18.99	19.74	20.21	18.14	18.90	18.62	19.38	19.85
	6H	19.24	19.87	19.75	20.38	20.87	18.87	19.50	19.38	20.01	20.50
	8H	19.56	20.11	20.06	20.60	21.16	19.18	19.74	19.68	20.23	20.79

END OF REPORT

FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE

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