

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: P930241

Luminaire Tested: DFN2DS-HX3F0-090DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930241
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-HX3F0-090DS840-FLL
Description: 3 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

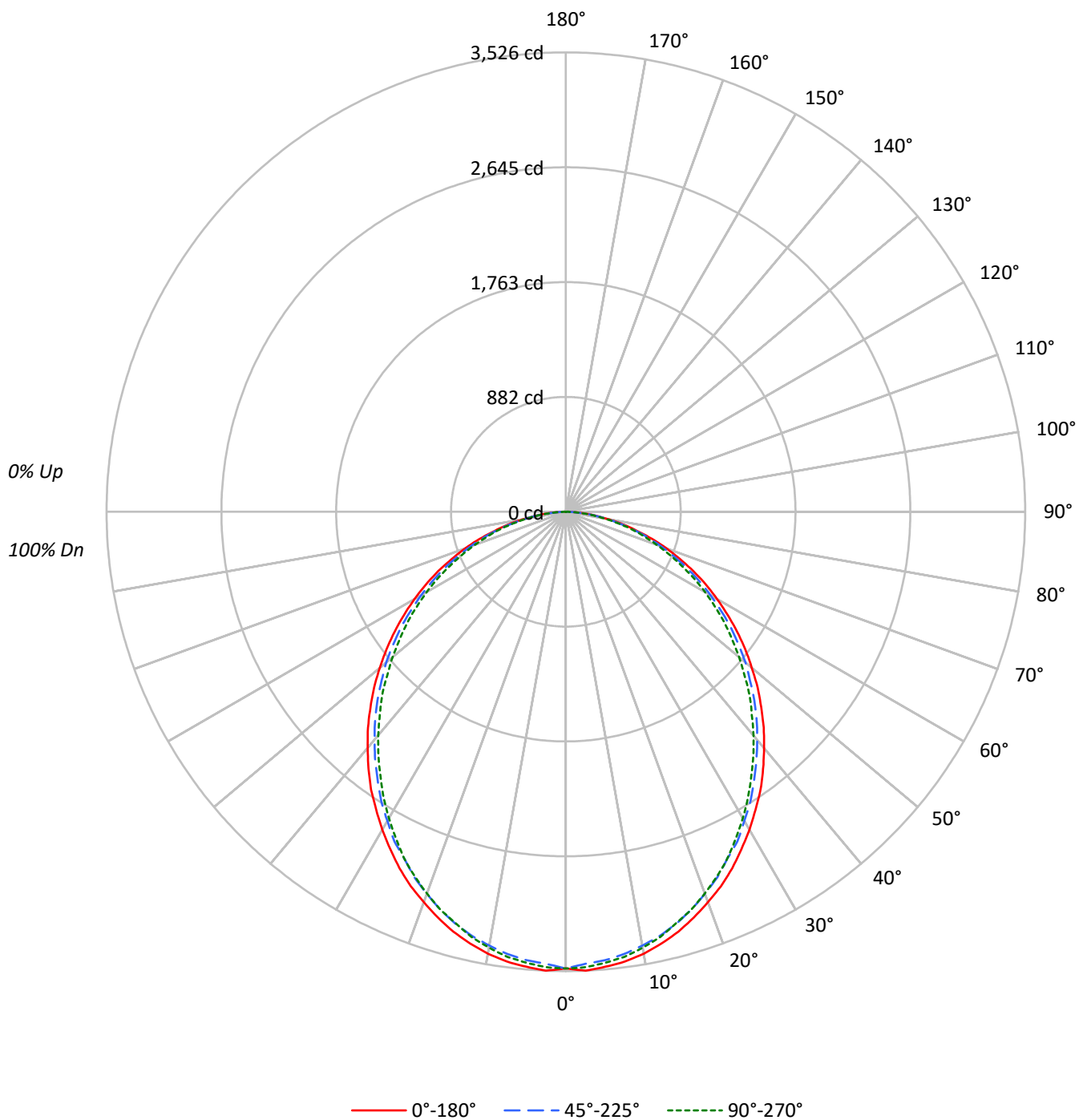
Lumens per Lamp: N/A
Luminaire Lumens: 8918.9 lumens
Efficiency: N/A
Efficacy: 91.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.28' x L: 2.84' x H: 0')
CIE Type: Direct

Input Watts (W): 97.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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°	4060	4060	4060
5°	4076	4018	4041
10°	4052	3977	3997
15°	4002	3925	3921
20°	3931	3848	3844
25°	3860	3753	3753
30°	3769	3665	3634
35°	3685	3561	3508
40°	3578	3455	3390
45°	3473	3352	3269
50°	3359	3244	3128
55°	3241	3118	3002
60°	3108	2968	2858
65°	2966	2818	2689
70°	2786	2637	2512
75°	2534	2428	2369
80°	2249	2180	2069
85°	1834	1749	1568

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3473 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.9	3.7
10°-20°	928.3	10.4
20°-30°	1364.2	15.3
30°-40°	1584.5	17.8
40°-50°	1582.5	17.7
50°-60°	1379.9	15.5
60°-70°	1020.1	11.4
70°-80°	577.1	6.5
80°-90°	152.3	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°	2622.5	29.4
0°-40°	4207.0	47.2
0°-60°	7169.4	80.4
0°-90°	8918.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8918.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3505	3505	3505	3505	3505	
5°	3505	3492	3455	3482	3475	333
15°	3337	3317	3273	3287	3270	940
25°	3020	2993	2936	2942	2936	1390
35°	2606	2572	2518	2498	2481	1627
45°	2120	2097	2046	2009	1996	1636
55°	1605	1584	1544	1504	1487	1435
65°	1082	1062	1028	998	981	1070
75°	566	560	542	522	529	604
85°	138	135	132	121	118	162
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3505.4	3505.4	3505.4	3505.4	3505.4
2.5°	3525.8	3509.0	3471.9	3505.4	3499.0
5°	3505.4	3492.2	3455.1	3481.9	3475.4
7.5°	3481.9	3461.9	3424.6	3451.8	3445.0
10°	3445.0	3421.4	3381.0	3407.8	3397.8
12.5°	3394.2	3374.2	3333.8	3350.5	3343.8
15°	3337.0	3317.0	3273.0	3286.6	3269.8
17.5°	3266.2	3246.1	3202.2	3219.0	3202.2
20°	3188.6	3168.6	3121.3	3131.3	3118.1
22.5°	3111.3	3081.0	3036.9	3036.9	3030.1
25°	3020.1	2993.3	2936.1	2942.5	2936.1
27.5°	2918.9	2895.3	2851.7	2841.7	2824.9
30°	2818.1	2790.9	2740.4	2730.4	2716.9
32.5°	2710.1	2690.1	2636.0	2615.7	2602.1
35°	2605.7	2572.1	2518.0	2497.7	2480.9
37.5°	2487.7	2457.3	2403.2	2379.7	2362.9
40°	2366.4	2339.2	2285.2	2255.2	2241.6
42.5°	2248.3	2221.2	2167.6	2133.6	2113.6
45°	2120.3	2096.8	2045.9	2009.1	1995.6
47.5°	1995.6	1972.0	1917.9	1880.8	1860.8
50°	1864.0	1847.1	1799.9	1752.8	1735.9
52.5°	1735.9	1712.3	1668.7	1631.5	1607.9
55°	1604.7	1584.3	1543.8	1503.5	1486.7
57.5°	1473.1	1456.3	1412.3	1371.9	1358.3
60°	1341.4	1328.2	1281.0	1243.8	1233.8
62.5°	1213.4	1189.8	1156.2	1122.6	1109.0
65°	1082.2	1061.8	1028.1	997.8	981.0
67.5°	947.3	930.2	900.1	876.6	863.0
70°	822.5	808.9	778.6	755.0	741.7
72.5°	694.5	680.9	664.1	640.5	630.5
75°	566.2	559.7	542.5	522.5	529.3
77.5°	451.7	438.1	431.3	421.3	411.3
80°	337.2	333.6	326.8	316.8	310.1
82.5°	229.2	229.2	226.0	212.4	212.4
85°	138.0	134.8	131.6	121.2	118.0
87.5°	60.8	54.0	47.2	37.2	33.6
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	16.15	17.76	16.52	18.08	18.39	15.71	17.32	16.07	17.63	17.95
	3H	17.90	19.36	18.28	19.68	20.04	17.41	18.86	17.79	19.19	19.55
	4H	18.55	19.92	18.95	20.26	20.64	18.05	19.42	18.45	19.77	20.15
	6H	19.02	20.29	19.43	20.65	21.04	18.52	19.78	18.93	20.15	20.54
	8H	19.16	20.37	19.58	20.76	21.16	18.66	19.87	19.08	20.26	20.66
	12H	19.25	20.41	19.68	20.79	21.22	18.74	19.90	19.17	20.28	20.71
4H	2H	16.71	18.08	17.11	18.43	18.80	16.36	17.73	16.76	18.08	18.45
	3H	18.69	19.83	19.10	20.23	20.63	18.28	19.43	18.69	19.82	20.22
	4H	19.46	20.50	19.89	20.91	21.35	19.04	20.08	19.47	20.49	20.93
	6H	20.06	20.96	20.51	21.41	21.86	19.63	20.53	20.08	20.97	21.43
	8H	20.25	21.10	20.71	21.54	22.00	19.81	20.66	20.27	21.10	21.57
	12H	20.38	21.14	20.86	21.62	22.09	19.93	20.69	20.41	21.16	21.63
8H	4H	19.74	20.58	20.20	21.03	21.49	19.36	20.21	19.82	20.65	21.12
	6H	20.45	21.15	20.94	21.64	22.12	20.07	20.77	20.56	21.26	21.74
	8H	20.71	21.34	21.22	21.85	22.33	20.32	20.95	20.83	21.46	21.94
	12H	20.91	21.47	21.42	21.96	22.52	20.50	21.05	21.00	21.55	22.11
12H	4H	19.76	20.52	20.24	21.00	21.47	19.40	20.16	19.88	20.63	21.10
	6H	20.50	21.13	21.01	21.63	22.12	20.13	20.76	20.64	21.27	21.75
	8H	20.81	21.37	21.32	21.86	22.42	20.43	20.99	20.94	21.48	22.04

END OF REPORT

FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE

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