

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: P930377

Luminaire Tested: DFN2DS-HX4F0-100DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930377
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-HX4F0-100DS940-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

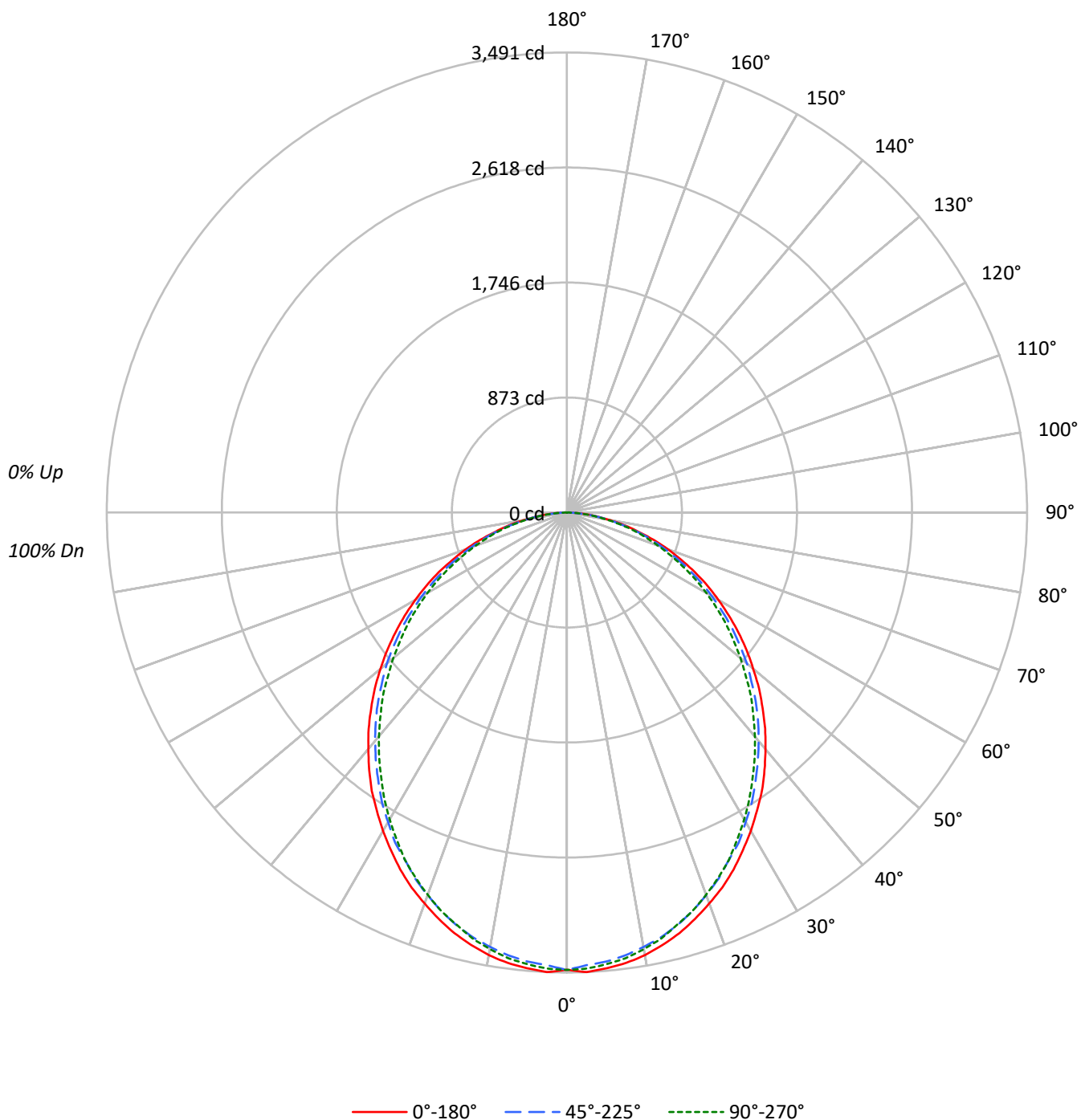
Lumens per Lamp: N/A
Luminaire Lumens: 8830.8 lumens
Efficiency: N/A
Efficacy: 84.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 104.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
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°	2581	2581	2581
5°	2591	2553	2568
10°	2575	2528	2540
15°	2543	2495	2492
20°	2498	2445	2443
25°	2453	2385	2385
30°	2396	2330	2310
35°	2342	2263	2230
40°	2274	2196	2154
45°	2208	2130	2078
50°	2135	2061	1988
55°	2060	1982	1908
60°	1975	1886	1817
65°	1885	1791	1709
70°	1771	1676	1597
75°	1610	1543	1505
80°	1430	1386	1315
85°	1166	1112	997

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2208 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	326.7	3.7
10°-20°	919.1	10.4
20°-30°	1350.8	15.3
30°-40°	1568.8	17.8
40°-50°	1566.9	17.7
50°-60°	1366.3	15.5
60°-70°	1010.0	11.4
70°-80°	571.4	6.5
80°-90°	150.8	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°	2596.6	29.4
0°-40°	4165.4	47.2
0°-60°	7098.5	80.4
0°-90°	8830.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8830.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3471	3471	3471	3471	3471	
5°	3471	3458	3421	3448	3441	329
15°	3304	3284	3241	3254	3238	931
25°	2990	2964	2907	2914	2907	1376
35°	2580	2547	2493	2473	2456	1611
45°	2099	2076	2026	1989	1976	1620
55°	1589	1569	1529	1489	1472	1420
65°	1072	1051	1018	988	971	1059
75°	560	554	537	517	524	598
85°	137	134	130	120	117	161
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3470.9	3470.9	3470.9	3470.9	3470.9
2.5°	3491.0	3474.3	3437.5	3470.9	3464.4
5°	3470.9	3457.7	3420.9	3447.5	3441.1
7.5°	3447.5	3427.6	3390.8	3417.7	3411.0
10°	3411.0	3387.6	3347.6	3374.2	3364.3
12.5°	3360.7	3340.9	3300.8	3317.5	3310.7
15°	3304.1	3284.3	3240.6	3254.1	3237.5
17.5°	3233.9	3214.1	3170.5	3187.2	3170.5
20°	3157.1	3137.3	3090.5	3100.4	3087.3
22.5°	3080.6	3050.6	3006.9	3006.9	3000.2
25°	2990.3	2963.8	2907.1	2913.5	2907.1
27.5°	2890.1	2866.7	2823.5	2813.6	2797.0
30°	2790.3	2763.3	2713.4	2703.5	2690.0
32.5°	2683.3	2663.5	2610.0	2589.8	2576.4
35°	2579.9	2546.7	2493.1	2473.0	2456.3
37.5°	2463.1	2432.9	2379.5	2356.1	2339.4
40°	2343.0	2316.1	2262.6	2232.9	2219.5
42.5°	2226.2	2199.2	2146.2	2112.5	2092.7
45°	2099.4	2076.0	2025.7	1989.2	1975.9
47.5°	1975.9	1952.5	1899.0	1862.1	1842.3
50°	1845.5	1828.9	1782.1	1735.4	1718.8
52.5°	1718.8	1695.4	1652.2	1615.4	1592.0
55°	1588.8	1568.7	1528.6	1488.6	1472.0
57.5°	1458.5	1441.8	1398.3	1358.3	1344.9
60°	1328.2	1315.1	1268.3	1231.5	1221.6
62.5°	1201.4	1178.1	1144.8	1111.5	1098.1
65°	1071.5	1051.3	1018.0	987.9	971.3
67.5°	938.0	921.0	891.3	867.9	854.4
70°	814.4	800.9	770.9	747.5	734.4
72.5°	687.6	674.2	657.6	634.2	624.2
75°	560.5	554.2	537.2	517.4	524.0
77.5°	447.2	433.8	427.0	417.1	407.2
80°	333.9	330.4	323.6	313.7	307.0
82.5°	227.0	227.0	223.8	210.3	210.3
85°	136.7	133.5	130.3	120.1	116.9
87.5°	60.2	53.4	46.7	36.8	33.3
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	14.58	16.19	14.94	16.50	16.82	14.13	15.74	14.50	16.06	16.37
	3H	16.33	17.78	16.70	18.11	18.47	15.84	17.29	16.21	17.62	17.98
	4H	16.97	18.34	17.37	18.69	19.07	16.48	17.85	16.88	18.19	18.57
	6H	17.44	18.71	17.85	19.08	19.47	16.94	18.21	17.35	18.57	18.96
	8H	17.59	18.80	18.01	19.18	19.58	17.08	18.29	17.51	18.68	19.08
	12H	17.68	18.84	18.10	19.22	19.65	17.16	18.32	17.59	18.70	19.13
4H	2H	15.14	16.51	15.54	16.85	17.23	14.78	16.15	15.18	16.50	16.88
	3H	17.11	18.26	17.52	18.66	19.06	16.71	17.85	17.12	18.25	18.65
	4H	17.89	18.92	18.32	19.34	19.77	17.46	18.50	17.90	18.91	19.35
	6H	18.49	19.39	18.94	19.83	20.29	18.05	18.96	18.51	19.40	19.85
	8H	18.67	19.52	19.14	19.96	20.43	18.24	19.08	18.70	19.53	19.99
	12H	18.81	19.57	19.29	20.04	20.51	18.35	19.11	18.83	19.59	20.06
8H	4H	18.16	19.01	18.62	19.45	19.92	17.79	18.63	18.25	19.08	19.54
	6H	18.88	19.58	19.37	20.07	20.54	18.49	19.20	18.99	19.69	20.16
	8H	19.14	19.77	19.65	20.27	20.76	18.74	19.37	19.25	19.88	20.37
	12H	19.34	19.89	19.84	20.38	20.94	18.92	19.48	19.43	19.97	20.53
12H	4H	18.19	18.95	18.67	19.42	19.89	17.82	18.58	18.30	19.06	19.53
	6H	18.92	19.55	19.43	20.06	20.55	18.55	19.18	19.06	19.69	20.18
	8H	19.24	19.79	19.74	20.28	20.85	18.86	19.42	19.36	19.91	20.47