

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: P930389

Luminaire Tested: DFN2DS-HX4F0-110DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930389
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-HX4F0-110DS927-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

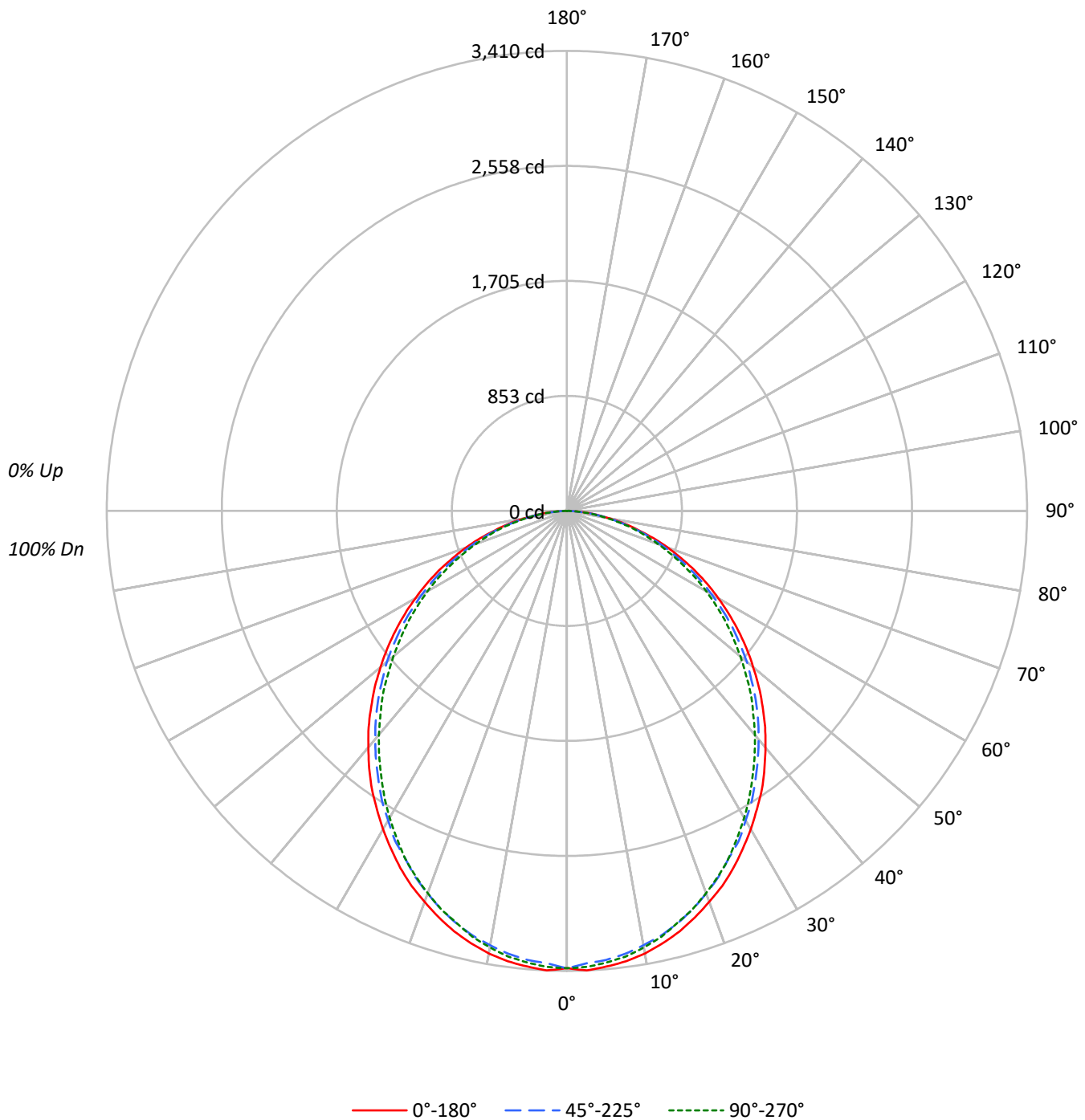
Lumens per Lamp: N/A
Luminaire Lumens: 8624.9 lumens
Efficiency: N/A
Efficacy: 73.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 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				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°	2521	2521	2521
5°	2530	2494	2509
10°	2515	2469	2481
15°	2484	2436	2434
20°	2440	2388	2386
25°	2396	2329	2329
30°	2340	2275	2256
35°	2287	2210	2178
40°	2221	2145	2104
45°	2156	2081	2029
50°	2085	2013	1942
55°	2012	1935	1864
60°	1929	1842	1774
65°	1841	1749	1669
70°	1729	1637	1559
75°	1573	1507	1471
80°	1396	1354	1284
85°	1139	1086	973

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2156 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	319.1	3.7
10°-20°	897.7	10.4
20°-30°	1319.3	15.3
30°-40°	1532.2	17.8
40°-50°	1530.4	17.7
50°-60°	1334.4	15.5
60°-70°	986.4	11.4
70°-80°	558.1	6.5
80°-90°	147.3	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°	2536.0	29.4
0°-40°	4068.3	47.2
0°-60°	6933.0	80.4
0°-90°	8624.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8624.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3390	3390	3390	3390	3390	
5°	3390	3377	3341	3367	3361	322
15°	3227	3208	3165	3178	3162	909
25°	2921	2895	2839	2846	2839	1344
35°	2520	2487	2435	2415	2399	1573
45°	2050	2028	1978	1943	1930	1582
55°	1552	1532	1493	1454	1438	1387
65°	1046	1027	994	965	949	1035
75°	547	541	525	505	512	584
85°	134	130	127	117	114	157
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3389.9	3389.9	3389.9	3389.9	3389.9
2.5°	3409.6	3393.3	3357.4	3389.9	3383.7
5°	3389.9	3377.1	3341.1	3367.0	3360.9
7.5°	3367.0	3347.7	3311.7	3338.0	3331.5
10°	3331.5	3308.6	3269.5	3295.4	3285.8
12.5°	3282.4	3263.0	3223.9	3240.2	3233.6
15°	3227.0	3207.6	3165.1	3178.2	3162.0
17.5°	3158.5	3139.2	3096.6	3112.9	3096.6
20°	3083.5	3064.1	3018.5	3028.1	3015.4
22.5°	3008.8	2979.3	2936.8	2936.8	2930.2
25°	2920.6	2894.7	2839.3	2845.6	2839.3
27.5°	2822.7	2799.9	2757.7	2748.0	2731.8
30°	2725.2	2698.9	2650.1	2640.4	2627.3
32.5°	2620.7	2601.4	2549.1	2529.4	2516.3
35°	2519.7	2487.3	2435.0	2415.3	2399.0
37.5°	2405.6	2376.2	2324.0	2301.2	2284.9
40°	2288.4	2262.1	2209.9	2180.9	2167.7
42.5°	2174.3	2148.0	2096.1	2063.2	2043.9
45°	2050.5	2027.6	1978.5	1942.9	1929.8
47.5°	1929.8	1907.0	1854.7	1818.7	1799.3
50°	1802.5	1786.3	1740.6	1695.0	1678.7
52.5°	1678.7	1655.8	1613.7	1577.7	1554.9
55°	1551.8	1532.0	1493.0	1453.9	1437.6
57.5°	1424.5	1408.3	1365.7	1326.6	1313.5
60°	1297.2	1284.5	1238.8	1202.8	1193.1
62.5°	1173.4	1150.6	1118.1	1085.6	1072.4
65°	1046.5	1026.7	994.3	964.9	948.7
67.5°	916.1	899.6	870.5	847.7	834.5
70°	795.4	782.3	752.9	730.1	717.2
72.5°	671.6	658.5	642.2	619.4	609.7
75°	547.4	541.3	524.6	505.3	511.9
77.5°	436.8	423.6	417.1	407.4	397.7
80°	326.1	322.7	316.1	306.4	299.9
82.5°	221.7	221.7	218.6	205.4	205.4
85°	133.5	130.4	127.3	117.2	114.1
87.5°	58.8	52.2	45.6	36.0	32.5
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	14.49	16.11	14.86	16.42	16.73	14.05	15.66	14.42	15.97	16.29
	3H	16.24	17.70	16.62	18.03	18.39	15.75	17.21	16.13	17.53	17.90
	4H	16.89	18.26	17.29	18.61	18.98	16.40	17.77	16.79	18.11	18.49
	6H	17.36	18.63	17.77	18.99	19.38	16.86	18.13	17.27	18.49	18.88
	8H	17.50	18.71	17.93	19.10	19.50	17.00	18.21	17.42	18.60	19.00
	12H	17.59	18.75	18.02	19.14	19.56	17.08	18.24	17.51	18.62	19.05
4H	2H	15.06	16.42	15.45	16.77	17.15	14.70	16.07	15.10	16.42	16.80
	3H	17.03	18.18	17.44	18.57	18.97	16.62	17.77	17.03	18.17	18.57
	4H	17.81	18.84	18.24	19.26	19.69	17.38	18.42	17.81	18.83	19.27
	6H	18.40	19.31	18.86	19.75	20.20	17.97	18.88	18.43	19.32	19.77
	8H	18.59	19.44	19.05	19.88	20.35	18.15	19.00	18.62	19.44	19.91
	12H	18.72	19.48	19.20	19.96	20.43	18.27	19.03	18.75	19.51	19.98
8H	4H	18.08	18.93	18.54	19.37	19.83	17.71	18.55	18.17	18.99	19.46
	6H	18.79	19.50	19.29	19.99	20.46	18.41	19.12	18.91	19.60	20.08
	8H	19.05	19.68	19.56	20.19	20.68	18.66	19.29	19.17	19.80	20.29
	12H	19.25	19.81	19.76	20.30	20.86	18.84	19.40	19.35	19.89	20.45
12H	4H	18.11	18.87	18.59	19.34	19.81	17.74	18.50	18.22	18.98	19.45
	6H	18.84	19.47	19.35	19.98	20.46	18.47	19.10	18.98	19.61	20.10
	8H	19.15	19.71	19.66	20.20	20.76	18.78	19.33	19.28	19.82	20.39