

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: P930321

Luminaire Tested: DFN2DS-HX4F0-070DS935-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930321
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-HX4F0-070DS935-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

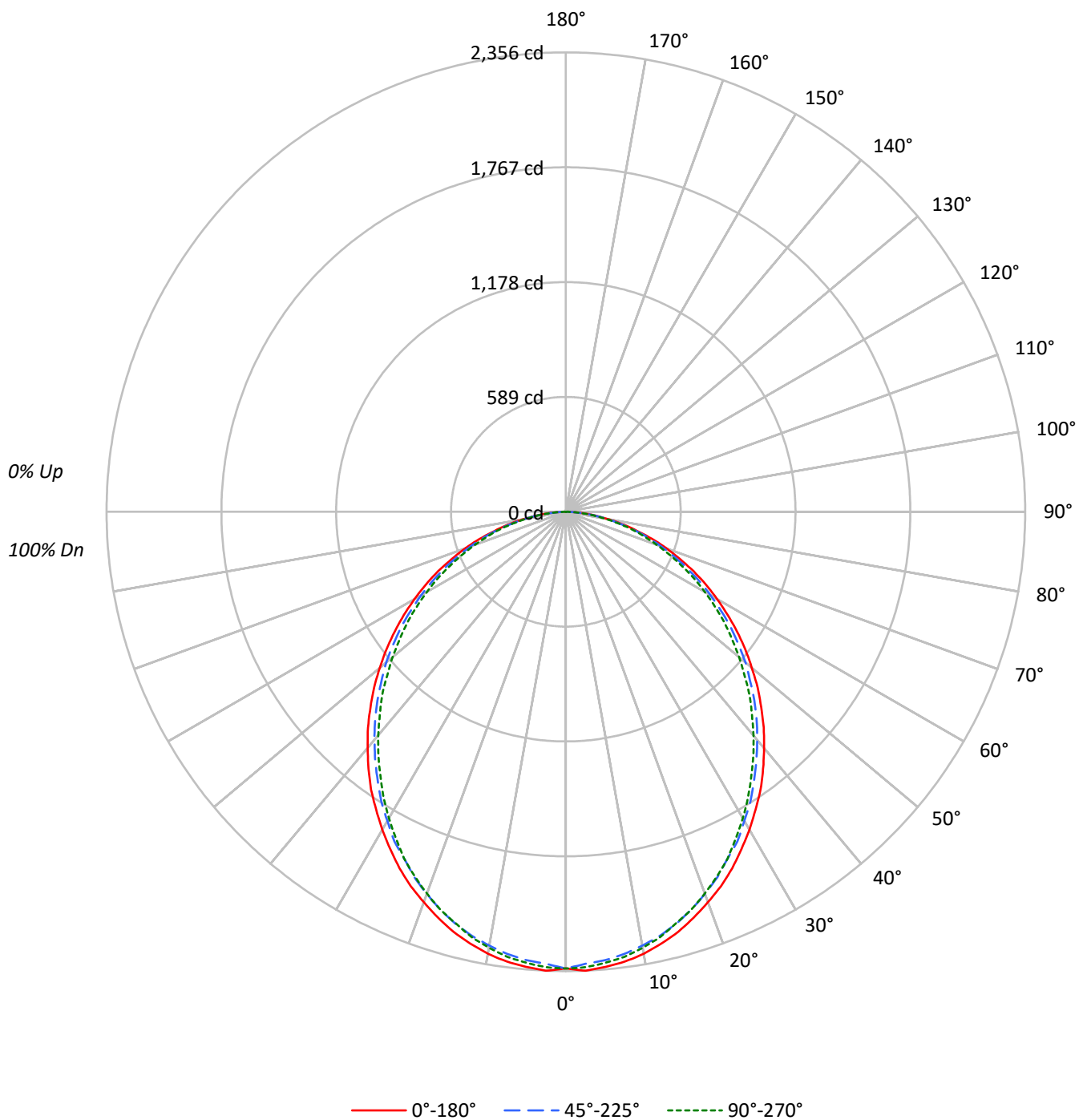
Lumens per Lamp: N/A
Luminaire Lumens: 5959.8 lumens
Efficiency: N/A
Efficacy: 83.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 71.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
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°	1742	1742	1742
5°	1748	1723	1733
10°	1738	1706	1714
15°	1717	1684	1682
20°	1686	1650	1649
25°	1656	1610	1610
30°	1617	1572	1559
35°	1581	1527	1505
40°	1535	1482	1454
45°	1490	1438	1402
50°	1441	1391	1342
55°	1390	1337	1288
60°	1333	1273	1226
65°	1272	1209	1153
70°	1195	1131	1077
75°	1087	1041	1016
80°	965	935	887
85°	787	751	673

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1490 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	220.5	3.7
10°-20°	620.3	10.4
20°-30°	911.6	15.3
30°-40°	1058.8	17.8
40°-50°	1057.5	17.7
50°-60°	922.1	15.5
60°-70°	681.6	11.4
70°-80°	385.7	6.5
80°-90°	101.8	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°	1752.4	29.4
0°-40°	2811.2	47.2
0°-60°	4790.7	80.4
0°-90°	5959.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5959.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2342	2342	2342	2342	2342	
5°	2342	2334	2309	2327	2322	222
15°	2230	2216	2187	2196	2185	628
25°	2018	2000	1962	1966	1962	929
35°	1741	1719	1683	1669	1658	1087
45°	1417	1401	1367	1342	1333	1093
55°	1072	1059	1032	1005	993	959
65°	723	710	687	667	656	715
75°	378	374	362	349	354	404
85°	92	90	88	81	79	108
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2342.4	2342.4	2342.4	2342.4	2342.4
2.5°	2356.1	2344.8	2319.9	2342.4	2338.1
5°	2342.4	2333.6	2308.8	2326.6	2322.3
7.5°	2326.6	2313.2	2288.4	2306.6	2302.0
10°	2302.0	2286.2	2259.2	2277.2	2270.5
12.5°	2268.1	2254.7	2227.7	2238.9	2234.4
15°	2229.9	2216.5	2187.1	2196.2	2184.9
17.5°	2182.5	2169.2	2139.8	2151.0	2139.8
20°	2130.6	2117.3	2085.8	2092.5	2083.6
22.5°	2079.0	2058.8	2029.3	2029.3	2024.8
25°	2018.2	2000.2	1962.0	1966.3	1962.0
27.5°	1950.5	1934.7	1905.6	1898.9	1887.6
30°	1883.1	1864.9	1831.3	1824.6	1815.5
32.5°	1810.9	1797.6	1761.5	1747.9	1738.7
35°	1741.2	1718.7	1682.6	1669.0	1657.7
37.5°	1662.3	1642.0	1605.9	1590.1	1578.9
40°	1581.3	1563.1	1527.0	1507.0	1497.9
42.5°	1502.4	1484.3	1448.4	1425.7	1412.3
45°	1416.8	1401.1	1367.1	1342.5	1333.4
47.5°	1333.4	1317.7	1281.6	1256.7	1243.4
50°	1245.5	1234.3	1202.7	1171.2	1160.0
52.5°	1160.0	1144.2	1115.1	1090.2	1074.4
55°	1072.2	1058.7	1031.7	1004.7	993.4
57.5°	984.4	973.1	943.7	916.7	907.6
60°	896.4	887.5	856.0	831.2	824.5
62.5°	810.8	795.1	772.6	750.2	741.1
65°	723.2	709.5	687.1	666.8	655.5
67.5°	633.0	621.6	601.5	585.7	576.6
70°	549.6	540.6	520.2	504.5	495.6
72.5°	464.1	455.0	443.8	428.0	421.3
75°	378.3	374.0	362.5	349.2	353.7
77.5°	301.9	292.7	288.2	281.5	274.9
80°	225.3	223.0	218.4	211.7	207.2
82.5°	153.2	153.2	151.0	142.0	142.0
85°	92.3	90.1	88.0	81.0	78.9
87.5°	40.6	36.1	31.6	24.9	22.4
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	13.21	14.82	13.58	15.14	15.45	12.77	14.38	13.13	14.69	15.01
	3H	14.96	16.42	15.34	16.74	17.10	14.47	15.92	14.85	16.25	16.61
	4H	15.61	16.98	16.01	17.32	17.70	15.11	16.48	15.51	16.83	17.20
	6H	16.08	17.34	16.49	17.71	18.10	15.57	16.84	15.99	17.21	17.60
	8H	16.22	17.43	16.64	17.82	18.22	15.72	16.93	16.14	17.32	17.72
	12H	16.31	17.47	16.74	17.85	18.28	15.80	16.96	16.23	17.34	17.77
4H	2H	13.77	15.14	14.17	15.49	15.86	13.42	14.79	13.82	15.13	15.51
	3H	15.75	16.89	16.16	17.29	17.69	15.34	16.49	15.75	16.88	17.28
	4H	16.52	17.56	16.95	17.97	18.41	16.10	17.13	16.53	17.55	17.98
	6H	17.12	18.02	17.57	18.46	18.92	16.69	17.59	17.14	18.03	18.49
	8H	17.31	18.16	17.77	18.60	19.06	16.87	17.72	17.33	18.16	18.63
	12H	17.44	18.20	17.92	18.68	19.15	16.99	17.75	17.47	18.22	18.69
8H	4H	16.80	17.64	17.26	18.08	18.55	16.42	17.27	16.88	17.71	18.18
	6H	17.51	18.21	18.00	18.70	19.18	17.13	17.83	17.62	18.32	18.80
	8H	17.77	18.40	18.28	18.91	19.39	17.38	18.01	17.89	18.52	19.00
	12H	17.97	18.53	18.48	19.02	19.58	17.56	18.11	18.06	18.60	19.17
12H	4H	16.82	17.58	17.30	18.06	18.53	16.46	17.22	16.94	17.69	18.16
	6H	17.56	18.19	18.07	18.69	19.18	17.19	17.82	17.70	18.33	18.81
	8H	17.87	18.43	18.38	18.92	19.48	17.49	18.05	18.00	18.54	19.10