

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: P930311

Luminaire Tested: DFN2DS-HX4F0-070DS835-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930311
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-HX4F0-070DS835-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

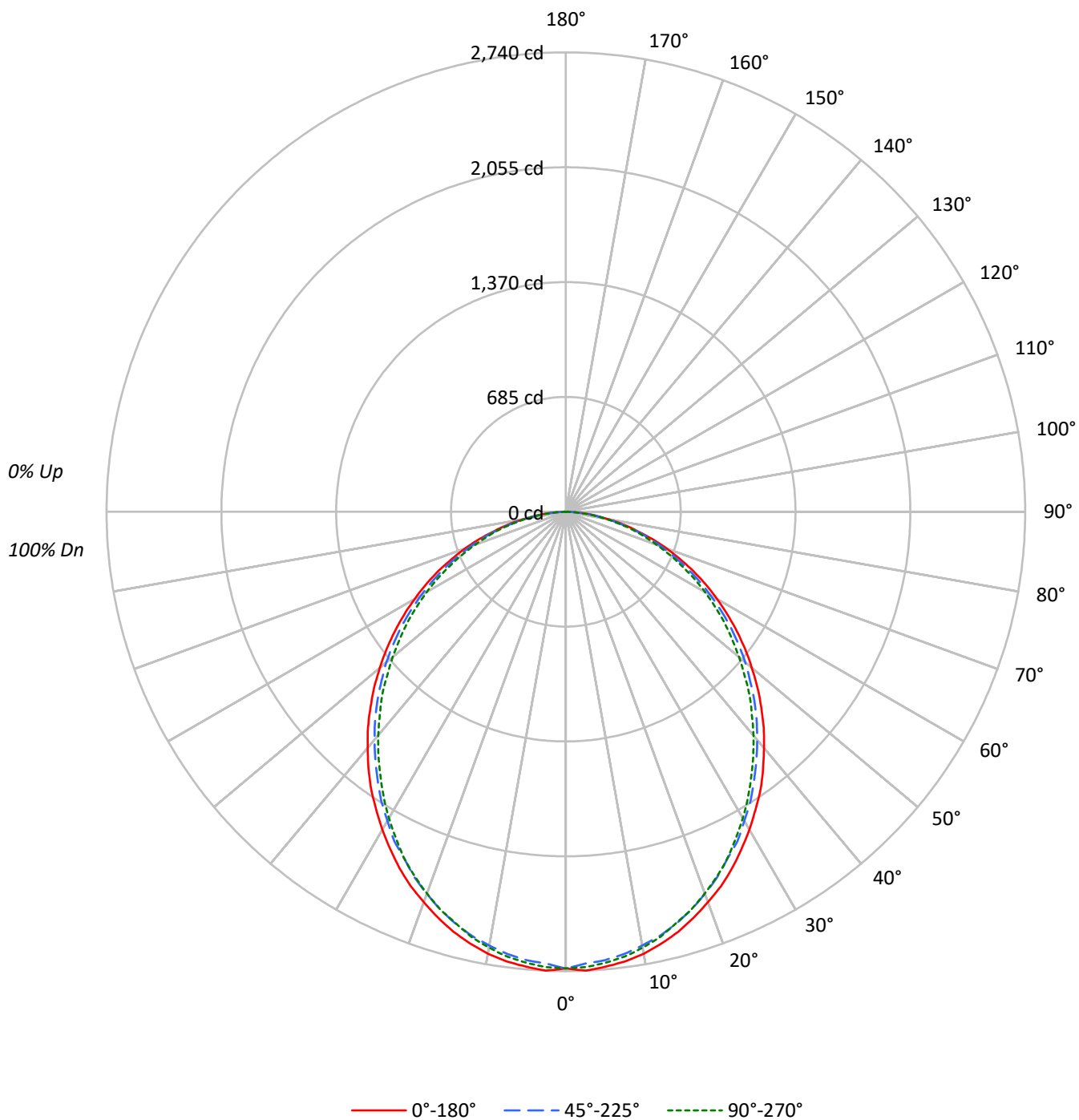
Lumens per Lamp: N/A
Luminaire Lumens: 6930.0 lumens
Efficiency: N/A
Efficacy: 97.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P930311

CATALOG NUMBER: DFN2DS-HX4F0-070DS835-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P930311

CATALOG NUMBER: DFN2DS-HX4F0-070DS835-FLL

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°	2025	2025	2025
5°	2033	2004	2016
10°	2021	1983	1993
15°	1996	1958	1956
20°	1960	1919	1917
25°	1925	1872	1872
30°	1880	1828	1812
35°	1838	1776	1750
40°	1785	1723	1691
45°	1732	1672	1630
50°	1675	1618	1560
55°	1616	1555	1497
60°	1550	1480	1426
65°	1479	1406	1341
70°	1389	1315	1253
75°	1264	1211	1182
80°	1122	1088	1032
85°	915	873	782

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1732 cd/sqm

TEST NUMBER: P930311

CATALOG NUMBER: DFN2DS-HX4F0-070DS835-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	256.4	3.7
10°-20°	721.3	10.4
20°-30°	1060.0	15.3
30°-40°	1231.1	17.8
40°-50°	1229.6	17.7
50°-60°	1072.2	15.5
60°-70°	792.6	11.4
70°-80°	448.4	6.5
80°-90°	118.4	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°	2037.7	29.4
0°-40°	3268.8	47.2
0°-60°	5570.6	80.4
0°-90°	6930.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6930.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2724	2724	2724	2724	2724	
5°	2724	2714	2685	2705	2700	259
15°	2593	2577	2543	2554	2541	730
25°	2347	2326	2281	2286	2281	1080
35°	2025	1998	1956	1941	1928	1264
45°	1648	1629	1590	1561	1550	1271
55°	1247	1231	1200	1168	1155	1115
65°	841	825	799	775	762	831
75°	440	435	422	406	411	470
85°	107	105	102	94	92	126
90°	0	0	0	0	0	

TEST NUMBER: P930311

CATALOG NUMBER: DFN2DS-HX4F0-070DS835-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2723.7	2723.7	2723.7	2723.7	2723.7
2.5°	2739.6	2726.5	2697.6	2723.7	2718.7
5°	2723.7	2713.5	2684.6	2705.4	2700.4
7.5°	2705.4	2689.8	2660.9	2682.1	2676.8
10°	2676.8	2658.4	2627.0	2647.9	2640.1
12.5°	2637.3	2621.8	2590.4	2603.4	2598.1
15°	2592.9	2577.3	2543.1	2553.7	2540.6
17.5°	2537.8	2522.3	2488.1	2501.2	2488.1
20°	2477.5	2462.0	2425.3	2433.1	2422.8
22.5°	2417.5	2393.9	2359.7	2359.7	2354.4
25°	2346.7	2325.8	2281.4	2286.4	2281.4
27.5°	2268.0	2249.7	2215.8	2208.0	2194.9
30°	2189.7	2168.5	2129.4	2121.6	2111.0
32.5°	2105.7	2090.2	2048.2	2032.4	2021.8
35°	2024.6	1998.5	1956.5	1940.7	1927.6
37.5°	1932.9	1909.3	1867.3	1849.0	1835.9
40°	1838.7	1817.6	1775.6	1752.3	1741.7
42.5°	1747.0	1725.9	1684.2	1657.8	1642.2
45°	1647.5	1629.2	1589.7	1561.1	1550.5
47.5°	1550.5	1532.2	1490.2	1461.3	1445.8
50°	1448.3	1435.2	1398.5	1361.9	1348.8
52.5°	1348.8	1330.5	1296.6	1267.7	1249.3
55°	1246.8	1231.0	1199.6	1168.2	1155.1
57.5°	1144.6	1131.5	1097.3	1065.9	1055.4
60°	1042.3	1032.0	995.4	966.5	958.7
62.5°	942.8	924.5	898.4	872.3	861.7
65°	840.9	825.0	798.9	775.3	762.2
67.5°	736.1	722.8	699.4	681.1	670.5
70°	639.1	628.6	604.9	586.6	576.3
72.5°	539.6	529.1	516.0	497.7	489.9
75°	439.9	434.9	421.5	406.0	411.3
77.5°	351.0	340.4	335.1	327.3	319.6
80°	262.0	259.3	254.0	246.2	240.9
82.5°	178.1	178.1	175.6	165.1	165.1
85°	107.3	104.8	102.3	94.2	91.7
87.5°	47.2	42.0	36.7	28.9	26.1
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930311

CATALOG NUMBER: DFN2DS-HX4F0-070DS835-FLL

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	13.73	15.35	14.10	15.66	15.97	13.29	14.90	13.65	15.21	15.53
	3H	15.48	16.94	15.86	17.27	17.63	14.99	16.45	15.37	16.77	17.13
	4H	16.13	17.50	16.53	17.85	18.22	15.64	17.01	16.03	17.35	17.73
	6H	16.60	17.87	17.01	18.23	18.62	16.10	17.37	16.51	17.73	18.12
	8H	16.74	17.95	17.17	18.34	18.74	16.24	17.45	16.66	17.84	18.24
	12H	16.83	17.99	17.26	18.38	18.80	16.32	17.48	16.75	17.86	18.29
4H	2H	14.29	15.66	14.69	16.01	16.39	13.94	15.31	14.34	15.66	16.03
	3H	16.27	17.42	16.68	17.81	18.21	15.86	17.01	16.27	17.41	17.81
	4H	17.05	18.08	17.48	18.50	18.93	16.62	17.66	17.05	18.07	18.51
	6H	17.64	18.55	18.10	18.99	19.44	17.21	18.12	17.66	18.56	19.01
	8H	17.83	18.68	18.29	19.12	19.59	17.39	18.24	17.86	18.68	19.15
	12H	17.96	18.72	18.44	19.20	19.67	17.51	18.27	17.99	18.75	19.22
8H	4H	17.32	18.17	17.78	18.61	19.07	16.95	17.79	17.41	18.23	18.70
	6H	18.03	18.74	18.53	19.23	19.70	17.65	18.36	18.15	18.84	19.32
	8H	18.29	18.92	18.80	19.43	19.92	17.90	18.53	18.41	19.04	19.53
	12H	18.49	19.05	19.00	19.54	20.10	18.08	18.64	18.59	19.13	19.69
12H	4H	17.35	18.11	17.83	18.58	19.05	16.98	17.74	17.46	18.22	18.69
	6H	18.08	18.71	18.59	19.22	19.70	17.71	18.34	18.22	18.85	19.34
	8H	18.39	18.95	18.90	19.44	20.00	18.02	18.57	18.52	19.06	19.63