

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: P930315

Luminaire Tested: DFN2DS-HX4F0-070DS850-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930315
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-HX4F0-070DS850-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

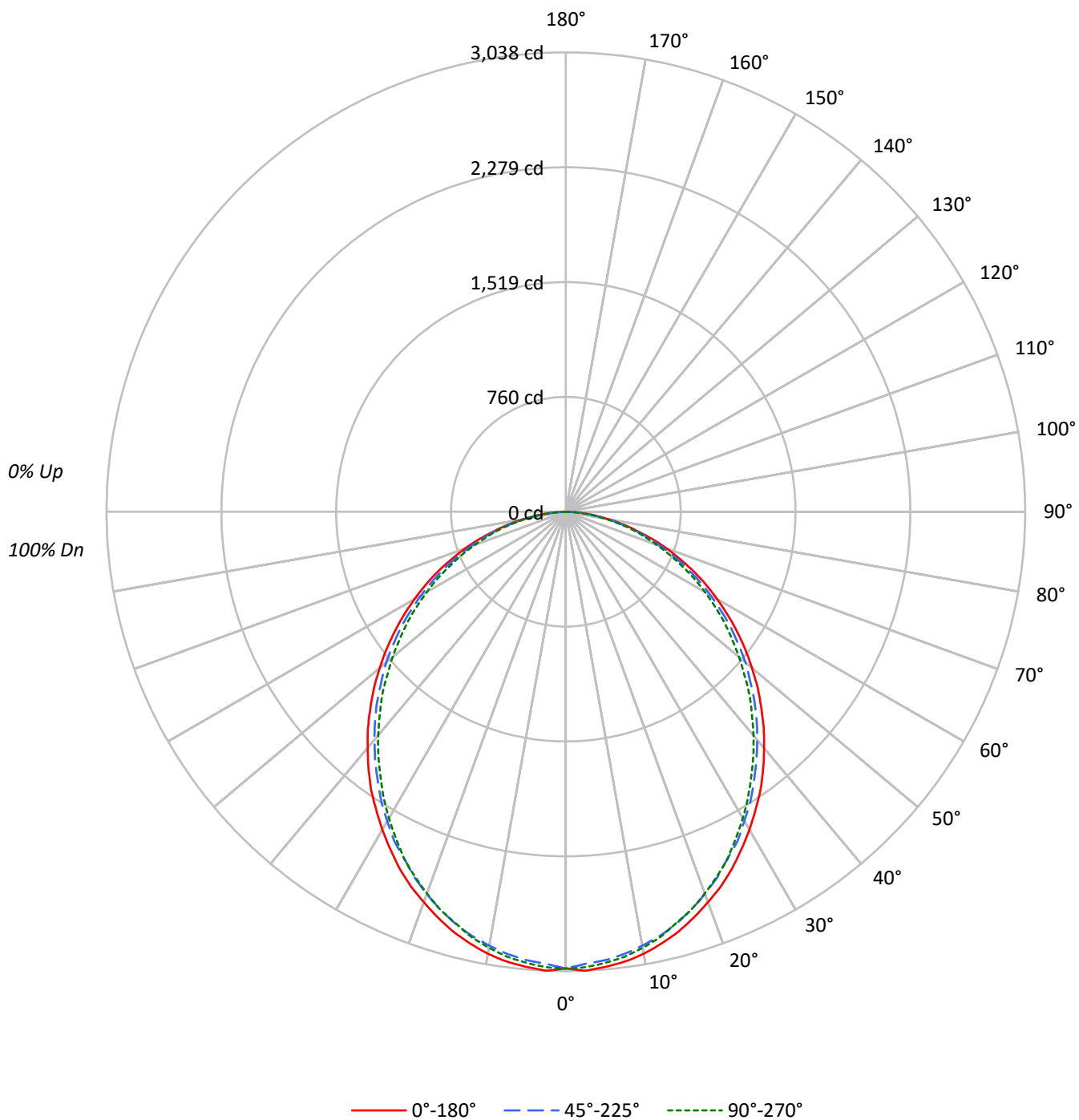
Lumens per Lamp: N/A
Luminaire Lumens: 7685.4 lumens
Efficiency: N/A
Efficacy: 108.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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: P930315

CATALOG NUMBER: DFN2DS-HX4F0-070DS850-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P930315

CATALOG NUMBER: DFN2DS-HX4F0-070DS850-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°	2246	2246	2246
5°	2255	2222	2235
10°	2241	2200	2211
15°	2214	2171	2169
20°	2174	2128	2126
25°	2135	2076	2076
30°	2085	2028	2010
35°	2038	1970	1940
40°	1979	1911	1875
45°	1921	1854	1808
50°	1858	1794	1730
55°	1792	1725	1661
60°	1719	1642	1581
65°	1641	1559	1487
70°	1541	1458	1389
75°	1401	1343	1310
80°	1244	1206	1144
85°	1015	968	868

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1921 cd/sqm

TEST NUMBER: P930315

CATALOG NUMBER: DFN2DS-HX4F0-070DS850-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	284.3	3.7
10°-20°	799.9	10.4
20°-30°	1175.6	15.3
30°-40°	1365.3	17.8
40°-50°	1363.6	17.7
50°-60°	1189.1	15.5
60°-70°	879.0	11.4
70°-80°	497.3	6.5
80°-90°	131.3	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°	2259.8	29.4
0°-40°	3625.1	47.2
0°-60°	6177.8	80.4
0°-90°	7685.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7685.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3021	3021	3021	3021	3021	
5°	3021	3009	2977	3000	2995	287
15°	2876	2858	2820	2832	2818	810
25°	2602	2579	2530	2536	2530	1198
35°	2245	2216	2170	2152	2138	1402
45°	1827	1807	1763	1731	1720	1410
55°	1383	1365	1330	1296	1281	1236
65°	933	915	886	860	845	922
75°	488	482	467	450	456	521
85°	119	116	114	104	102	140
90°	0	0	0	0	0	

TEST NUMBER: P930315

CATALOG NUMBER: DFN2DS-HX4F0-070DS850-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3020.6	3020.6	3020.6	3020.6	3020.6
2.5°	3038.2	3023.7	2991.6	3020.6	3015.0
5°	3020.6	3009.3	2977.2	3000.3	2994.7
7.5°	3000.3	2983.0	2950.9	2974.4	2968.6
10°	2968.6	2948.2	2913.3	2936.5	2927.9
12.5°	2924.8	2907.6	2872.8	2887.2	2881.3
15°	2875.5	2858.2	2820.3	2832.1	2817.5
17.5°	2814.4	2797.2	2759.3	2773.8	2759.3
20°	2747.5	2730.4	2689.7	2698.3	2686.9
22.5°	2681.0	2654.8	2616.9	2616.9	2611.0
25°	2602.5	2579.3	2530.1	2535.6	2530.1
27.5°	2515.2	2494.9	2457.3	2448.7	2434.1
30°	2428.4	2404.9	2361.5	2352.9	2341.1
32.5°	2335.2	2318.0	2271.5	2253.9	2242.2
35°	2245.3	2216.3	2169.8	2152.2	2137.7
37.5°	2143.6	2117.4	2070.8	2050.5	2036.0
40°	2039.1	2015.7	1969.1	1943.3	1931.5
42.5°	1937.4	1914.0	1867.8	1838.5	1821.2
45°	1827.1	1806.8	1763.0	1731.3	1719.5
47.5°	1719.5	1699.2	1652.6	1620.6	1603.4
50°	1606.2	1591.6	1550.9	1510.3	1495.8
52.5°	1495.8	1475.5	1437.9	1405.9	1385.5
55°	1382.7	1365.2	1330.4	1295.5	1281.0
57.5°	1269.4	1254.8	1216.9	1182.1	1170.4
60°	1155.9	1144.5	1103.9	1071.8	1063.2
62.5°	1045.6	1025.3	996.3	967.4	955.6
65°	932.6	914.9	886.0	859.8	845.3
67.5°	816.3	801.6	775.6	755.3	743.6
70°	708.8	697.1	670.8	650.5	639.1
72.5°	598.4	586.8	572.2	551.9	543.3
75°	487.8	482.3	467.4	450.3	456.1
77.5°	389.3	377.5	371.6	363.0	354.4
80°	290.6	287.6	281.7	273.0	267.2
82.5°	197.5	197.5	194.7	183.1	183.1
85°	119.0	116.2	113.5	104.5	101.7
87.5°	52.3	46.6	40.7	32.1	28.9
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930315

CATALOG NUMBER: DFN2DS-HX4F0-070DS850-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	14.09	15.70	14.46	16.02	16.33	13.65	15.26	14.01	15.57	15.89
	3H	15.84	17.30	16.22	17.63	17.99	15.35	16.81	15.73	17.13	17.49
	4H	16.49	17.86	16.89	18.21	18.58	16.00	17.36	16.39	17.71	18.09
	6H	16.96	18.23	17.37	18.59	18.98	16.46	17.73	16.87	18.09	18.48
	8H	17.10	18.31	17.53	18.70	19.10	16.60	17.81	17.02	18.20	18.60
	12H	17.19	18.35	17.62	18.73	19.16	16.68	17.84	17.11	18.22	18.65
4H	2H	14.65	16.02	15.05	16.37	16.75	14.30	15.67	14.70	16.02	16.39
	3H	16.63	17.78	17.04	18.17	18.57	16.22	17.37	16.63	17.77	18.17
	4H	17.41	18.44	17.84	18.86	19.29	16.98	18.02	17.41	18.43	18.87
	6H	18.00	18.91	18.46	19.35	19.80	17.57	18.47	18.02	18.92	19.37
	8H	18.19	19.04	18.65	19.48	19.95	17.75	18.60	18.21	19.04	19.51
	12H	18.32	19.08	18.80	19.56	20.03	17.87	18.63	18.35	19.11	19.58
8H	4H	17.68	18.53	18.14	18.97	19.43	17.31	18.15	17.77	18.59	19.06
	6H	18.39	19.10	18.89	19.59	20.06	18.01	18.72	18.51	19.20	19.68
	8H	18.65	19.28	19.16	19.79	20.28	18.26	18.89	18.77	19.40	19.88
	12H	18.85	19.41	19.36	19.90	20.46	18.44	19.00	18.95	19.49	20.05
12H	4H	17.71	18.47	18.19	18.94	19.41	17.34	18.10	17.82	18.58	19.05
	6H	18.44	19.07	18.95	19.58	20.06	18.07	18.70	18.58	19.21	19.70
	8H	18.75	19.31	19.26	19.80	20.36	18.37	18.93	18.88	19.42	19.98