

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: P930395

Luminaire Tested: DFN2DS-HX4F0-110DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930395
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-HX4F0-110DS940-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

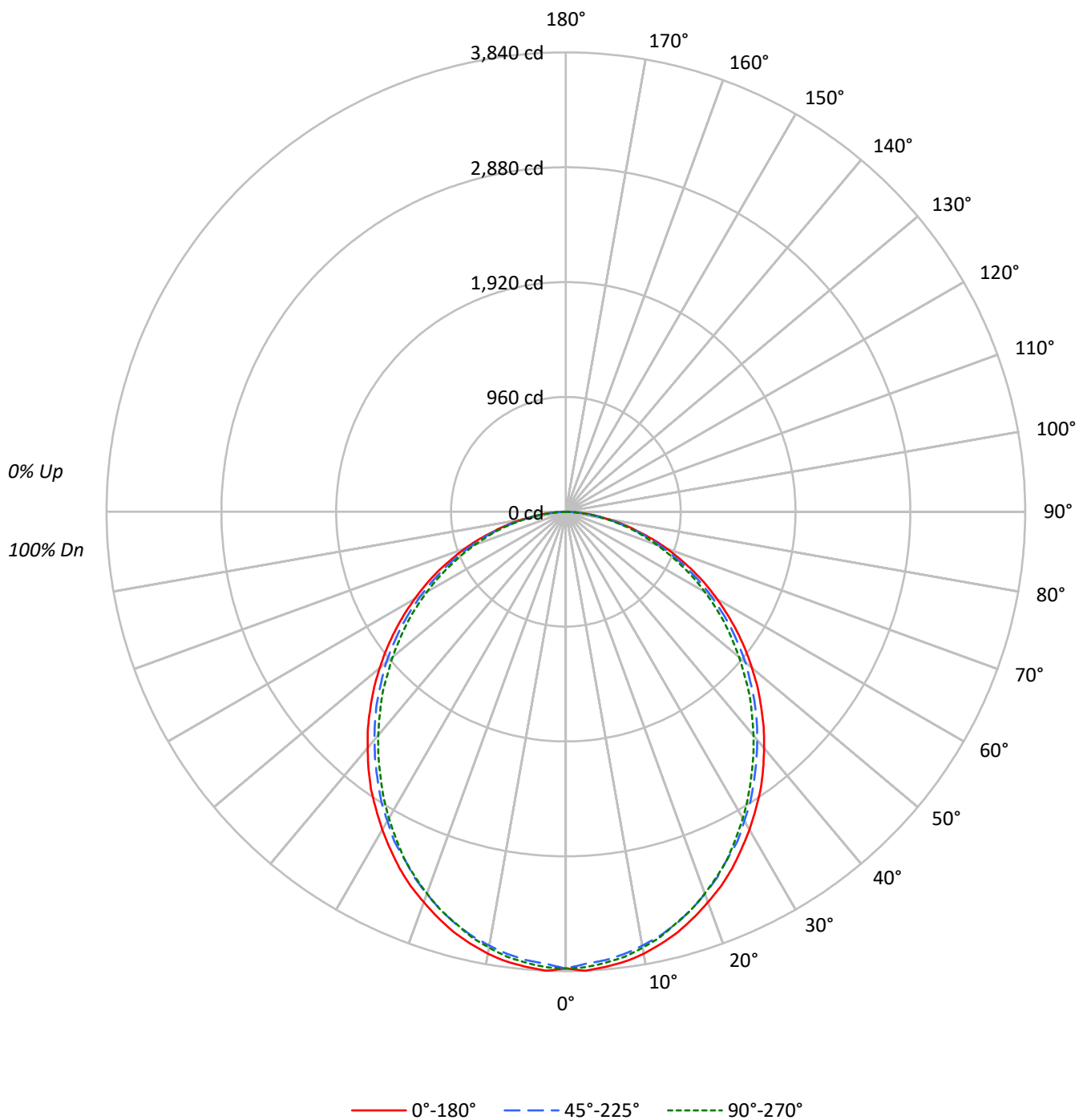
Lumens per Lamp: N/A
Luminaire Lumens: 9713.9 lumens
Efficiency: N/A
Efficacy: 83.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P930395

CATALOG NUMBER: DFN2DS-HX4F0-110DS940-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P930395

CATALOG NUMBER: DFN2DS-HX4F0-110DS940-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°	2839	2839	2839
5°	2850	2809	2825
10°	2833	2780	2794
15°	2798	2744	2741
20°	2748	2690	2687
25°	2699	2624	2624
30°	2635	2563	2541
35°	2576	2489	2453
40°	2502	2416	2370
45°	2428	2343	2285
50°	2348	2268	2187
55°	2266	2180	2099
60°	2173	2075	1998
65°	2074	1970	1880
70°	1948	1843	1756
75°	1771	1698	1656
80°	1573	1524	1446
85°	1283	1223	1096

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2428 cd/sqm

TEST NUMBER: P930395

CATALOG NUMBER: DFN2DS-HX4F0-110DS940-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	359.3	3.7
10°-20°	1011.1	10.4
20°-30°	1485.8	15.3
30°-40°	1725.7	17.8
40°-50°	1723.6	17.7
50°-60°	1502.9	15.5
60°-70°	1111.0	11.4
70°-80°	628.6	6.5
80°-90°	165.9	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°	2856.2	29.4
0°-40°	4582.0	47.2
0°-60°	7808.4	80.4
0°-90°	9713.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9713.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3818	3818	3818	3818	3818	
5°	3818	3804	3763	3792	3785	362
15°	3634	3613	3565	3580	3561	1024
25°	3289	3260	3198	3205	3198	1514
35°	2838	2801	2742	2720	2702	1772
45°	2309	2284	2228	2188	2173	1782
55°	1748	1726	1682	1637	1619	1563
65°	1179	1156	1120	1087	1068	1165
75°	617	610	591	569	576	658
85°	150	147	143	132	128	177
90°	0	0	0	0	0	

TEST NUMBER: P930395

CATALOG NUMBER: DFN2DS-HX4F0-110DS940-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3817.9	3817.9	3817.9	3817.9	3817.9
2.5°	3840.1	3821.8	3781.3	3817.9	3810.9
5°	3817.9	3803.5	3763.0	3792.2	3785.2
7.5°	3792.2	3770.4	3729.9	3759.5	3752.1
10°	3752.1	3726.3	3682.4	3711.5	3700.6
12.5°	3696.8	3675.0	3631.0	3649.3	3641.9
15°	3634.5	3612.6	3564.7	3579.5	3561.2
17.5°	3557.3	3535.5	3487.6	3505.9	3487.6
20°	3472.8	3451.0	3399.6	3410.5	3396.1
22.5°	3388.7	3355.5	3307.6	3307.6	3300.2
25°	3289.3	3260.2	3197.8	3204.9	3197.8
27.5°	3179.1	3153.4	3105.9	3095.0	3076.7
30°	3069.3	3039.7	2984.7	2973.8	2959.0
32.5°	2951.6	2929.9	2871.0	2848.8	2834.0
35°	2837.9	2801.3	2742.5	2720.2	2702.0
37.5°	2709.4	2676.3	2617.5	2591.7	2573.4
40°	2577.3	2547.7	2488.9	2456.2	2441.4
42.5°	2448.8	2419.2	2360.8	2323.7	2302.0
45°	2309.4	2283.6	2228.3	2188.3	2173.4
47.5°	2173.4	2147.8	2088.9	2048.4	2026.5
50°	2030.1	2011.8	1960.3	1909.0	1890.7
52.5°	1890.7	1864.9	1817.4	1776.9	1751.2
55°	1747.7	1725.5	1681.5	1637.4	1619.2
57.5°	1604.4	1586.1	1538.2	1494.1	1479.3
60°	1461.0	1446.6	1395.2	1354.7	1343.8
62.5°	1321.6	1295.9	1259.2	1222.7	1207.9
65°	1178.6	1156.4	1119.8	1086.7	1068.4
67.5°	1031.8	1013.1	980.4	954.7	939.9
70°	895.8	881.0	847.9	822.2	807.8
72.5°	756.4	741.6	723.3	697.6	686.7
75°	616.6	609.6	590.9	569.1	576.5
77.5°	491.9	477.1	469.7	458.8	448.0
80°	367.3	363.4	356.0	345.1	337.7
82.5°	249.7	249.7	246.2	231.4	231.4
85°	150.4	146.8	143.3	132.0	128.5
87.5°	66.2	58.8	51.4	40.5	36.6
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930395

CATALOG NUMBER: DFN2DS-HX4F0-110DS940-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	14.91	16.52	15.27	16.83	17.15	14.46	16.07	14.83	16.39	16.70
	3H	16.66	18.11	17.03	18.44	18.80	16.17	17.62	16.54	17.95	18.31
	4H	17.30	18.67	17.70	19.02	19.40	16.81	18.18	17.21	18.53	18.90
	6H	17.77	19.04	18.18	19.41	19.80	17.27	18.54	17.68	18.91	19.30
	8H	17.92	19.13	18.34	19.52	19.92	17.41	18.62	17.84	19.01	19.41
	12H	18.01	19.17	18.44	19.55	19.98	17.49	18.65	17.92	19.04	19.46
4H	2H	15.47	16.84	15.87	17.19	17.56	15.12	16.48	15.51	16.83	17.21
	3H	17.44	18.59	17.85	18.99	19.39	17.04	18.18	17.45	18.58	18.98
	4H	18.22	19.26	18.65	19.67	20.11	17.80	18.83	18.23	19.25	19.68
	6H	18.82	19.72	19.27	20.16	20.62	18.38	19.29	18.84	19.73	20.19
	8H	19.01	19.85	19.47	20.29	20.76	18.57	19.41	19.03	19.86	20.32
	12H	19.14	19.90	19.62	20.37	20.84	18.69	19.45	19.17	19.92	20.39
8H	4H	18.49	19.34	18.95	19.78	20.25	18.12	18.97	18.58	19.41	19.87
	6H	19.21	19.91	19.70	20.40	20.87	18.83	19.53	19.32	20.02	20.49
	8H	19.47	20.10	19.98	20.60	21.09	19.08	19.71	19.58	20.21	20.70
	12H	19.67	20.22	20.17	20.71	21.28	19.25	19.81	19.76	20.30	20.86
12H	4H	18.52	19.28	19.00	19.75	20.22	18.15	18.91	18.63	19.39	19.86
	6H	19.25	19.88	19.76	20.39	20.88	18.88	19.52	19.39	20.02	20.51
	8H	19.57	20.12	20.07	20.62	21.18	19.19	19.75	19.70	20.24	20.80