

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: P930373

Luminaire Tested: DFN2DS-HX4F0-100DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930373
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-HX4F0-100DS930-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

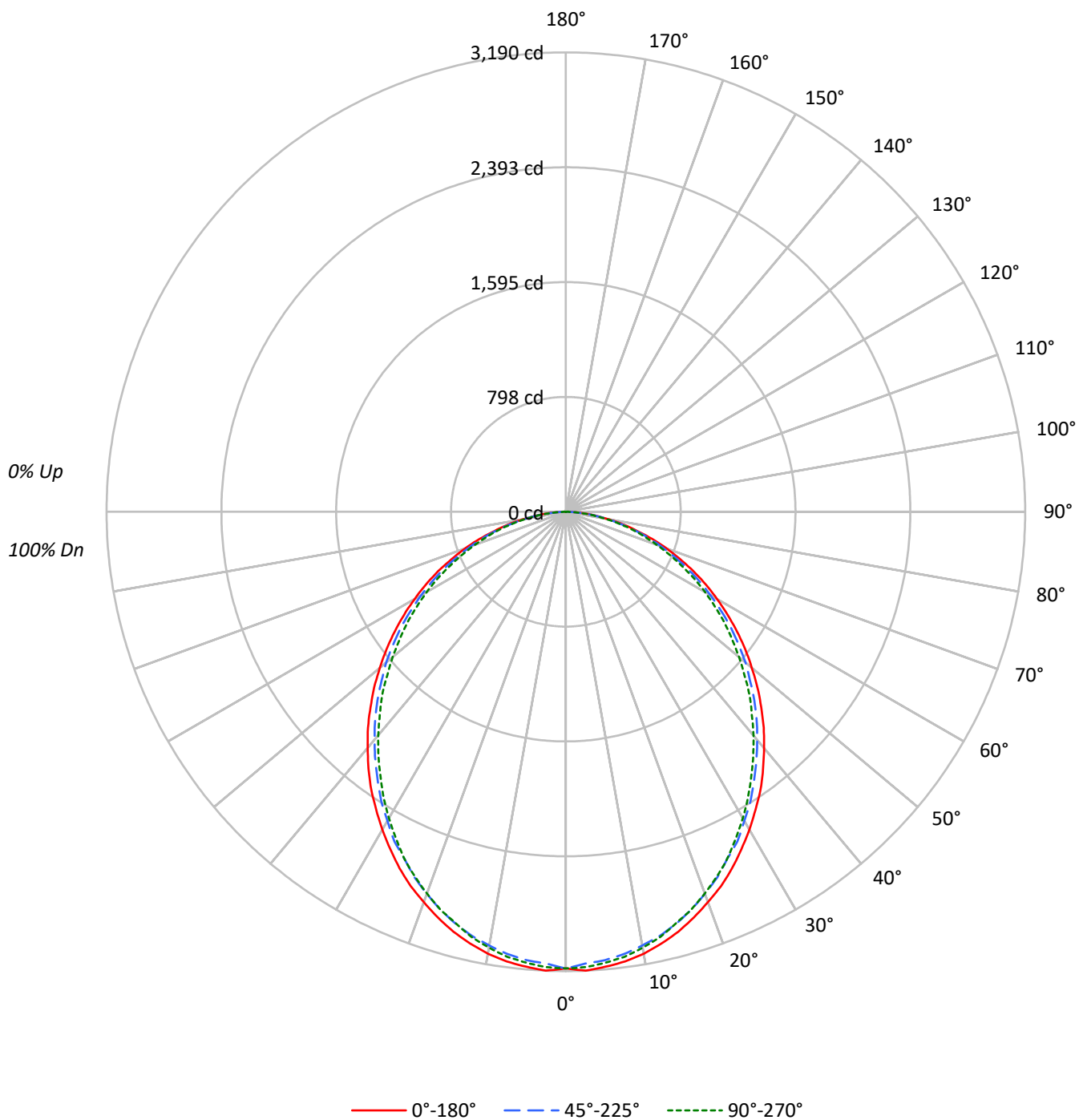
Lumens per Lamp: N/A
Luminaire Lumens: 8068.5 lumens
Efficiency: N/A
Efficacy: 77.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 104.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930373

CATALOG NUMBER: DFN2DS-HX4F0-100DS930-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P930373

CATALOG NUMBER: DFN2DS-HX4F0-100DS930-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°	2358	2358	2358
5°	2367	2333	2347
10°	2353	2309	2321
15°	2324	2279	2277
20°	2282	2234	2232
25°	2242	2179	2179
30°	2189	2129	2110
35°	2140	2068	2037
40°	2078	2007	1968
45°	2017	1946	1898
50°	1951	1884	1817
55°	1882	1811	1743
60°	1805	1723	1660
65°	1722	1637	1561
70°	1618	1531	1459
75°	1471	1410	1376
80°	1306	1266	1201
85°	1066	1016	911

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2017 cd/sqm

TEST NUMBER: P930373

CATALOG NUMBER: DFN2DS-HX4F0-100DS930-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	298.5	3.7
10°-20°	839.8	10.4
20°-30°	1234.2	15.3
30°-40°	1433.4	17.8
40°-50°	1431.6	17.7
50°-60°	1248.3	15.5
60°-70°	922.8	11.4
70°-80°	522.1	6.5
80°-90°	137.8	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°	2372.4	29.4
0°-40°	3805.8	47.2
0°-60°	6485.8	80.4
0°-90°	8068.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8068.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3171	3171	3171	3171	3171	
5°	3171	3159	3126	3150	3144	301
15°	3019	3001	2961	2973	2958	850
25°	2732	2708	2656	2662	2656	1257
35°	2357	2327	2278	2260	2244	1472
45°	1918	1897	1851	1818	1805	1480
55°	1452	1433	1397	1360	1345	1298
65°	979	961	930	903	888	968
75°	512	506	491	473	479	547
85°	125	122	119	110	107	147
90°	0	0	0	0	0	

TEST NUMBER: P930373

CATALOG NUMBER: DFN2DS-HX4F0-100DS930-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3171.2	3171.2	3171.2	3171.2	3171.2
2.5°	3189.7	3174.4	3140.8	3171.2	3165.4
5°	3171.2	3159.3	3125.6	3149.9	3144.0
7.5°	3149.9	3131.7	3098.1	3122.7	3116.6
10°	3116.6	3095.2	3058.6	3082.9	3073.9
12.5°	3070.6	3052.5	3015.9	3031.1	3025.0
15°	3018.8	3000.7	2960.9	2973.2	2958.0
17.5°	2954.8	2936.7	2896.8	2912.1	2896.8
20°	2884.5	2866.4	2823.7	2832.8	2820.8
22.5°	2814.7	2787.2	2747.4	2747.4	2741.3
25°	2732.2	2707.9	2656.2	2662.0	2656.2
27.5°	2640.6	2619.2	2579.8	2570.8	2555.5
30°	2549.4	2524.8	2479.1	2470.1	2457.8
32.5°	2451.7	2433.6	2384.7	2366.3	2354.0
35°	2357.2	2326.8	2277.9	2259.5	2244.3
37.5°	2250.5	2222.9	2174.1	2152.7	2137.5
40°	2140.8	2116.1	2067.3	2040.2	2027.9
42.5°	2034.0	2009.4	1960.9	1930.2	1912.1
45°	1918.2	1896.8	1850.9	1817.5	1805.3
47.5°	1805.3	1784.0	1735.1	1701.4	1683.3
50°	1686.2	1671.0	1628.3	1585.6	1570.4
52.5°	1570.4	1549.1	1509.5	1476.0	1454.6
55°	1451.7	1433.3	1396.7	1360.1	1344.9
57.5°	1332.6	1317.4	1277.6	1241.1	1228.8
60°	1213.5	1201.6	1158.8	1125.2	1116.1
62.5°	1097.7	1076.4	1046.0	1015.6	1003.3
65°	979.0	960.6	930.2	902.6	887.5
67.5°	857.1	841.5	814.3	793.0	780.7
70°	744.1	731.8	704.3	683.0	671.0
72.5°	628.3	616.0	600.8	579.5	570.3
75°	512.1	506.4	490.8	472.7	478.8
77.5°	408.6	396.3	390.1	381.1	372.0
80°	305.1	301.9	295.7	286.6	280.5
82.5°	207.4	207.4	204.5	192.2	192.2
85°	124.9	122.0	119.1	109.7	106.8
87.5°	55.0	48.8	42.7	33.7	30.4
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930373

CATALOG NUMBER: DFN2DS-HX4F0-100DS930-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	14.26	15.87	14.63	16.19	16.50	13.82	15.43	14.18	15.74	16.06
	3H	16.01	17.47	16.39	17.79	18.15	15.52	16.98	15.90	17.30	17.66
	4H	16.66	18.03	17.06	18.38	18.75	16.16	17.53	16.56	17.88	18.26
	6H	17.13	18.40	17.54	18.76	19.15	16.63	17.90	17.04	18.26	18.65
	8H	17.27	18.48	17.70	18.87	19.27	16.77	17.98	17.19	18.37	18.77
	12H	17.36	18.52	17.79	18.90	19.33	16.85	18.01	17.28	18.39	18.82
4H	2H	14.82	16.19	15.22	16.54	16.92	14.47	15.84	14.87	16.19	16.56
	3H	16.80	17.94	17.21	18.34	18.74	16.39	17.54	16.80	17.94	18.34
	4H	17.58	18.61	18.01	19.02	19.46	17.15	18.19	17.58	18.60	19.04
	6H	18.17	19.08	18.63	19.52	19.97	17.74	18.64	18.19	19.08	19.54
	8H	18.36	19.21	18.82	19.65	20.12	17.92	18.77	18.38	19.21	19.68
	12H	18.49	19.25	18.97	19.73	20.20	18.04	18.80	18.52	19.28	19.75
8H	4H	17.85	18.69	18.31	19.14	19.60	17.47	18.32	17.93	18.76	19.23
	6H	18.56	19.27	19.06	19.75	20.23	18.18	18.88	18.67	19.37	19.85
	8H	18.82	19.45	19.33	19.96	20.45	18.43	19.06	18.94	19.57	20.05
	12H	19.02	19.58	19.53	20.07	20.63	18.61	19.17	19.12	19.66	20.22
12H	4H	17.87	18.63	18.35	19.11	19.58	17.51	18.27	17.99	18.75	19.21
	6H	18.61	19.24	19.12	19.75	20.23	18.24	18.87	18.75	19.38	19.86
	8H	18.92	19.48	19.43	19.97	20.53	18.54	19.10	19.05	19.59	20.15