

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: P930367

Luminaire Tested: DFN2DS-HX4F0-100DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930367
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-HX4F0-100DS840-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

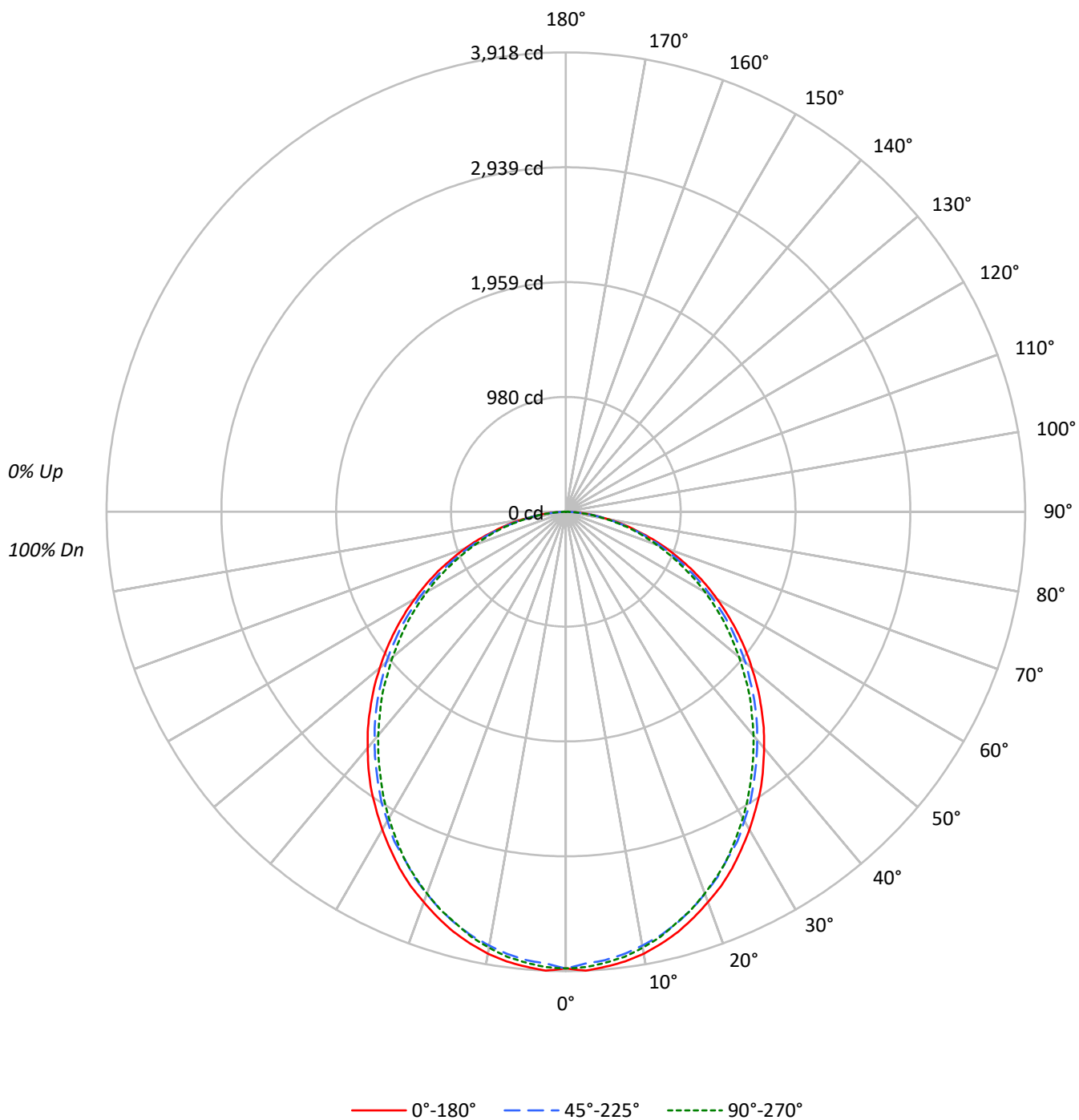
Lumens per Lamp: N/A
Luminaire Lumens: 9909.9 lumens
Efficiency: N/A
Efficacy: 95.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P930367

CATALOG NUMBER: DFN2DS-HX4F0-100DS840-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P930367

CATALOG NUMBER: DFN2DS-HX4F0-100DS840-FLL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10			0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37	32	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2896	2896	2896
5°	2907	2865	2882
10°	2890	2836	2851
15°	2854	2799	2797
20°	2803	2744	2741
25°	2753	2677	2677
30°	2688	2614	2592
35°	2628	2540	2502
40°	2552	2465	2418
45°	2477	2391	2332
50°	2396	2313	2231
55°	2311	2224	2141
60°	2217	2117	2039
65°	2116	2010	1918
70°	1987	1881	1792
75°	1807	1732	1690
80°	1604	1555	1475
85°	1309	1247	1118

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2477 cd/sqm

TEST NUMBER: P930367

CATALOG NUMBER: DFN2DS-HX4F0-100DS840-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	366.6	3.7
10°-20°	1031.5	10.4
20°-30°	1515.8	15.3
30°-40°	1760.5	17.8
40°-50°	1758.4	17.7
50°-60°	1533.2	15.5
60°-70°	1133.4	11.4
70°-80°	641.3	6.5
80°-90°	169.3	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°	2913.9	29.4
0°-40°	4674.4	47.2
0°-60°	7966.0	80.4
0°-90°	9909.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9909.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3895	3895	3895	3895	3895	
5°	3895	3880	3839	3869	3862	370
15°	3708	3686	3637	3652	3633	1044
25°	3356	3326	3262	3270	3262	1544
35°	2895	2858	2798	2775	2756	1808
45°	2356	2330	2273	2232	2217	1818
55°	1783	1760	1715	1670	1652	1594
65°	1202	1180	1142	1109	1090	1189
75°	629	622	603	581	588	672
85°	153	150	146	135	131	180
90°	0	0	0	0	0	

TEST NUMBER: P930367

CATALOG NUMBER: DFN2DS-HX4F0-100DS840-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3895.0	3895.0	3895.0	3895.0	3895.0
2.5°	3917.6	3898.9	3857.6	3895.0	3887.8
5°	3895.0	3880.3	3838.9	3868.8	3861.6
7.5°	3868.8	3846.4	3805.1	3835.3	3827.8
10°	3827.8	3801.6	3756.7	3786.5	3775.4
12.5°	3771.4	3749.1	3704.2	3722.9	3715.3
15°	3707.8	3685.6	3636.6	3651.7	3633.1
17.5°	3629.1	3606.9	3558.0	3576.7	3558.0
20°	3542.8	3520.6	3468.2	3479.3	3464.6
22.5°	3457.1	3423.3	3374.4	3374.4	3366.9
25°	3355.8	3325.9	3262.4	3269.5	3262.4
27.5°	3243.2	3217.0	3168.6	3157.5	3138.7
30°	3131.2	3101.0	3044.9	3033.8	3018.7
32.5°	3011.2	2989.0	2928.9	2906.3	2891.2
35°	2895.2	2857.9	2797.8	2775.2	2756.5
37.5°	2764.1	2730.2	2670.3	2644.0	2625.3
40°	2629.3	2599.1	2539.1	2505.8	2490.7
42.5°	2498.2	2468.0	2408.4	2370.7	2348.4
45°	2356.0	2329.7	2273.3	2232.3	2217.3
47.5°	2217.3	2191.1	2131.0	2089.7	2067.5
50°	2071.1	2052.4	1999.9	1947.4	1928.8
52.5°	1928.8	1902.6	1854.1	1812.8	1786.6
55°	1783.0	1760.4	1715.4	1670.5	1651.9
57.5°	1636.7	1618.0	1569.2	1524.3	1509.2
60°	1490.5	1475.8	1423.3	1382.0	1370.9
62.5°	1348.2	1322.0	1284.7	1247.3	1232.2
65°	1202.4	1179.8	1142.4	1108.6	1090.0
67.5°	1052.7	1033.5	1000.2	974.0	958.9
70°	913.9	898.8	865.1	838.8	824.1
72.5°	771.7	756.6	737.9	711.7	700.5
75°	629.0	621.9	602.8	580.6	588.1
77.5°	501.9	486.8	479.2	468.1	457.0
80°	374.7	370.8	363.2	352.1	344.5
82.5°	254.8	254.8	251.2	236.0	236.0
85°	153.4	149.8	146.2	134.7	131.1
87.5°	67.6	60.0	52.5	41.3	37.3
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930367

CATALOG NUMBER: DFN2DS-HX4F0-100DS840-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	14.98	16.59	15.34	16.90	17.22	14.53	16.14	14.90	16.46	16.77
	3H	16.73	18.18	17.10	18.51	18.87	16.24	17.69	16.61	18.02	18.38
	4H	17.37	18.74	17.77	19.09	19.47	16.88	18.25	17.28	18.60	18.97
	6H	17.84	19.11	18.25	19.48	19.87	17.34	18.61	17.75	18.97	19.37
	8H	17.99	19.20	18.41	19.59	19.98	17.48	18.69	17.91	19.08	19.48
	12H	18.08	19.24	18.51	19.62	20.05	17.56	18.72	17.99	19.11	19.53
4H	2H	15.54	16.91	15.94	17.25	17.63	15.18	16.55	15.58	16.90	17.28
	3H	17.51	18.66	17.92	19.06	19.46	17.11	18.25	17.52	18.65	19.05
	4H	18.29	19.32	18.72	19.74	20.17	17.87	18.90	18.30	19.31	19.75
	6H	18.89	19.79	19.34	20.23	20.69	18.45	19.36	18.91	19.80	20.26
	8H	19.08	19.92	19.54	20.36	20.83	18.64	19.48	19.10	19.93	20.39
	12H	19.21	19.97	19.69	20.44	20.91	18.75	19.51	19.24	19.99	20.46
8H	4H	18.56	19.41	19.02	19.85	20.32	18.19	19.03	18.65	19.48	19.94
	6H	19.28	19.98	19.77	20.47	20.94	18.90	19.60	19.39	20.09	20.56
	8H	19.54	20.17	20.05	20.67	21.16	19.14	19.78	19.65	20.28	20.77
	12H	19.74	20.29	20.24	20.78	21.35	19.32	19.88	19.83	20.37	20.93
12H	4H	18.59	19.35	19.07	19.82	20.29	18.22	18.98	18.70	19.46	19.93
	6H	19.32	19.95	19.83	20.46	20.95	18.95	19.59	19.46	20.09	20.58
	8H	19.64	20.19	20.14	20.68	21.25	19.26	19.82	19.77	20.31	20.87