

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: P930379

Luminaire Tested: DFN2DS-HX4F0-100DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930379
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-HX4F0-100DS950-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

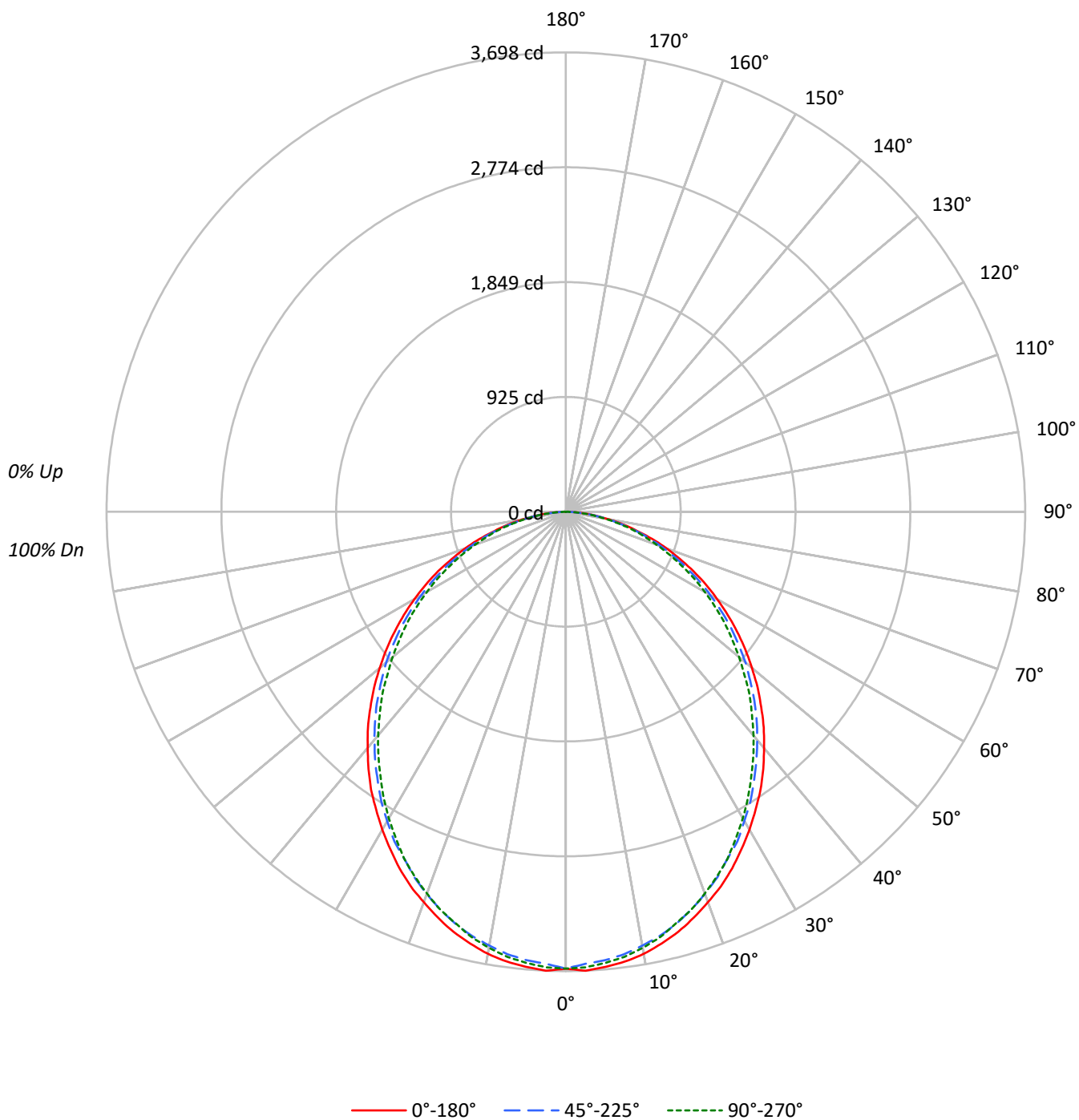
Lumens per Lamp: N/A
Luminaire Lumens: 9355.5 lumens
Efficiency: N/A
Efficacy: 89.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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: P930379

CATALOG NUMBER: DFN2DS-HX4F0-100DS950-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P930379

CATALOG NUMBER: DFN2DS-HX4F0-100DS950-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°	2734	2734	2734
5°	2745	2705	2721
10°	2728	2678	2691
15°	2695	2643	2640
20°	2647	2591	2588
25°	2599	2527	2527
30°	2538	2468	2447
35°	2481	2398	2362
40°	2409	2327	2282
45°	2339	2257	2201
50°	2262	2184	2106
55°	2182	2099	2022
60°	2093	1998	1925
65°	1997	1898	1810
70°	1876	1776	1691
75°	1706	1635	1595
80°	1515	1468	1393
85°	1235	1178	1056

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2339 cd/sqm

TEST NUMBER: P930379

CATALOG NUMBER: DFN2DS-HX4F0-100DS950-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	346.1	3.7
10°-20°	973.8	10.4
20°-30°	1431.0	15.3
30°-40°	1662.0	17.8
40°-50°	1660.0	17.7
50°-60°	1447.4	15.5
60°-70°	1070.0	11.4
70°-80°	605.4	6.5
80°-90°	159.8	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°	2750.9	29.4
0°-40°	4412.9	47.2
0°-60°	7520.3	80.4
0°-90°	9355.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9355.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3677	3677	3677	3677	3677	
5°	3677	3663	3624	3652	3646	349
15°	3500	3479	3433	3448	3430	986
25°	3168	3140	3080	3087	3080	1458
35°	2733	2698	2641	2620	2602	1707
45°	2224	2199	2146	2107	2093	1717
55°	1683	1662	1619	1577	1559	1505
65°	1135	1114	1078	1047	1029	1122
75°	594	587	569	548	555	634
85°	145	142	138	127	124	170
90°	0	0	0	0	0	

TEST NUMBER: P930379

CATALOG NUMBER: DFN2DS-HX4F0-100DS950-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3677.1	3677.1	3677.1	3677.1	3677.1
2.5°	3698.4	3680.8	3641.7	3677.1	3670.3
5°	3677.1	3663.2	3624.2	3652.3	3645.5
7.5°	3652.3	3631.3	3592.2	3620.8	3613.7
10°	3613.7	3588.9	3546.5	3574.7	3564.2
12.5°	3560.4	3539.4	3497.0	3514.6	3507.5
15°	3500.4	3479.4	3433.2	3447.5	3429.9
17.5°	3426.1	3405.1	3358.9	3376.6	3358.9
20°	3344.6	3323.7	3274.1	3284.6	3270.7
22.5°	3263.7	3231.8	3185.6	3185.6	3178.5
25°	3168.0	3139.9	3079.8	3086.6	3079.8
27.5°	3061.8	3037.0	2991.3	2980.8	2963.1
30°	2956.1	2927.5	2874.6	2864.1	2849.8
32.5°	2842.7	2821.8	2765.1	2743.7	2729.4
35°	2733.2	2698.0	2641.3	2619.9	2602.2
37.5°	2609.4	2577.5	2520.9	2496.1	2478.5
40°	2482.2	2453.7	2397.1	2365.6	2351.3
42.5°	2358.4	2329.9	2273.7	2238.0	2217.1
45°	2224.2	2199.4	2146.1	2107.4	2093.3
47.5°	2093.3	2068.5	2011.8	1972.8	1951.8
50°	1955.2	1937.5	1888.0	1838.5	1820.9
52.5°	1820.9	1796.2	1750.3	1711.4	1686.6
55°	1683.2	1661.9	1619.4	1577.0	1559.4
57.5°	1545.2	1527.5	1481.4	1439.0	1424.8
60°	1407.1	1393.2	1343.7	1304.7	1294.2
62.5°	1272.8	1248.1	1212.8	1177.6	1163.3
65°	1135.1	1113.8	1078.5	1046.6	1029.0
67.5°	993.8	975.7	944.2	919.5	905.2
70°	862.8	848.5	816.7	791.9	778.0
72.5°	728.5	714.2	696.7	671.9	661.3
75°	593.8	587.1	569.1	548.1	555.2
77.5°	473.8	459.6	452.4	441.9	431.4
80°	353.7	350.0	342.8	332.4	325.3
82.5°	240.5	240.5	237.1	222.8	222.8
85°	144.8	141.5	138.1	127.2	123.8
87.5°	63.8	56.6	49.5	39.0	35.2
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930379

CATALOG NUMBER: DFN2DS-HX4F0-100DS950-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	14.78	16.39	15.14	16.70	17.02	14.33	15.94	14.70	16.26	16.57
	3H	16.53	17.98	16.90	18.31	18.67	16.04	17.49	16.41	17.82	18.18
	4H	17.17	18.54	17.57	18.89	19.27	16.68	18.05	17.08	18.40	18.77
	6H	17.64	18.91	18.05	19.28	19.67	17.14	18.41	17.55	18.77	19.17
	8H	17.79	19.00	18.21	19.39	19.78	17.28	18.49	17.71	18.88	19.28
	12H	17.88	19.04	18.31	19.42	19.85	17.36	18.52	17.79	18.91	19.33
4H	2H	15.34	16.71	15.74	17.05	17.43	14.98	16.35	15.38	16.70	17.08
	3H	17.31	18.46	17.72	18.86	19.26	16.91	18.05	17.32	18.45	18.85
	4H	18.09	19.12	18.52	19.54	19.97	17.67	18.70	18.10	19.11	19.55
	6H	18.69	19.59	19.14	20.03	20.49	18.25	19.16	18.71	19.60	20.06
	8H	18.88	19.72	19.34	20.16	20.63	18.44	19.28	18.90	19.73	20.19
	12H	19.01	19.77	19.49	20.24	20.71	18.55	19.31	19.04	19.79	20.26
8H	4H	18.36	19.21	18.82	19.65	20.12	17.99	18.83	18.45	19.28	19.74
	6H	19.08	19.78	19.57	20.27	20.74	18.70	19.40	19.19	19.89	20.36
	8H	19.34	19.97	19.85	20.47	20.96	18.94	19.58	19.45	20.08	20.57
	12H	19.54	20.09	20.04	20.58	21.15	19.12	19.68	19.63	20.17	20.73
12H	4H	18.39	19.15	18.87	19.62	20.09	18.02	18.78	18.50	19.26	19.73
	6H	19.12	19.75	19.63	20.26	20.75	18.75	19.39	19.26	19.89	20.38
	8H	19.44	19.99	19.94	20.48	21.05	19.06	19.62	19.57	20.11	20.67