

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: P930363

Luminaire Tested: DFN2DS-HX4F0-100DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930363
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-HX4F0-100DS830-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

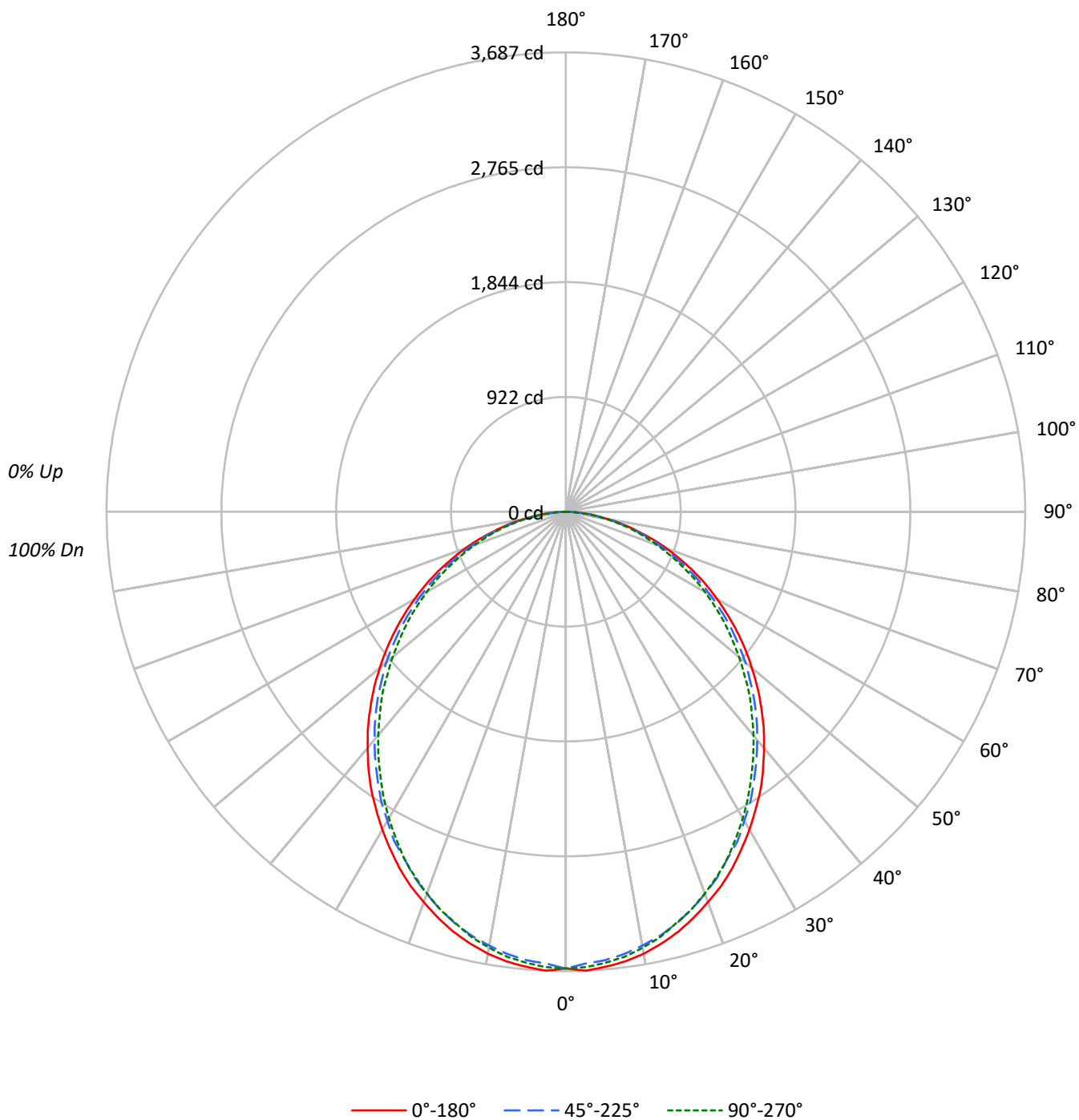
Lumens per Lamp: N/A
Luminaire Lumens: 9325.8 lumens
Efficiency: N/A
Efficacy: 89.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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: P930363

CATALOG NUMBER: DFN2DS-HX4F0-100DS830-FLL

Luminous Intensity Polar Plot



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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°	2725	2725	2725
5°	2736	2697	2712
10°	2720	2669	2682
15°	2686	2634	2632
20°	2638	2583	2580
25°	2591	2519	2519
30°	2530	2460	2439
35°	2473	2390	2355
40°	2402	2319	2275
45°	2331	2250	2194
50°	2255	2177	2100
55°	2175	2093	2015
60°	2086	1992	1919
65°	1991	1892	1805
70°	1870	1770	1686
75°	1701	1630	1590
80°	1510	1464	1388
85°	1231	1174	1053

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2331 cd/sqm

TEST NUMBER: P930363

CATALOG NUMBER: DFN2DS-HX4F0-100DS830-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	345.0	3.7
10°-20°	970.7	10.4
20°-30°	1426.5	15.3
30°-40°	1656.8	17.8
40°-50°	1654.7	17.7
50°-60°	1442.9	15.5
60°-70°	1066.6	11.4
70°-80°	603.5	6.5
80°-90°	159.3	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°	2742.1	29.4
0°-40°	4398.9	47.2
0°-60°	7496.5	80.4
0°-90°	9325.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9325.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3665	3665	3665	3665	3665	
5°	3665	3652	3613	3641	3634	348
15°	3489	3468	3422	3436	3419	983
25°	3158	3130	3070	3077	3070	1453
35°	2724	2689	2633	2612	2594	1701
45°	2217	2192	2139	2101	2087	1711
55°	1678	1657	1614	1572	1554	1500
65°	1132	1110	1075	1043	1026	1119
75°	592	585	567	546	553	632
85°	144	141	138	127	123	170
90°	0	0	0	0	0	

TEST NUMBER: P930363

CATALOG NUMBER: DFN2DS-HX4F0-100DS830-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3665.4	3665.4	3665.4	3665.4	3665.4
2.5°	3686.7	3669.1	3630.2	3665.4	3658.6
5°	3665.4	3651.6	3612.7	3640.7	3634.0
7.5°	3640.7	3619.7	3580.8	3609.3	3602.2
10°	3602.2	3577.5	3535.2	3563.3	3552.8
12.5°	3549.1	3528.2	3485.9	3503.5	3496.3
15°	3489.3	3468.3	3422.3	3436.5	3419.0
17.5°	3415.2	3394.3	3348.2	3365.9	3348.2
20°	3334.0	3313.1	3263.7	3274.2	3260.4
22.5°	3253.3	3221.5	3175.5	3175.5	3168.4
25°	3158.0	3129.9	3070.1	3076.8	3070.1
27.5°	3052.1	3027.4	2981.8	2971.4	2953.7
30°	2946.7	2918.2	2865.5	2855.0	2840.8
32.5°	2833.7	2812.8	2756.3	2735.0	2720.8
35°	2724.5	2689.4	2632.9	2611.6	2594.0
37.5°	2601.1	2569.3	2512.9	2488.2	2470.6
40°	2474.4	2445.9	2389.5	2358.1	2343.9
42.5°	2350.9	2322.5	2266.5	2230.9	2210.0
45°	2217.1	2192.4	2139.3	2100.8	2086.6
47.5°	2086.6	2061.9	2005.4	1966.5	1945.6
50°	1949.0	1931.4	1882.0	1832.7	1815.1
52.5°	1815.1	1790.5	1744.8	1706.0	1681.3
55°	1677.9	1656.6	1614.3	1572.0	1554.5
57.5°	1540.3	1522.6	1476.7	1434.5	1420.3
60°	1402.6	1388.8	1339.4	1300.5	1290.1
62.5°	1268.8	1244.1	1209.0	1173.8	1159.6
65°	1131.5	1110.2	1075.1	1043.3	1025.7
67.5°	990.6	972.6	941.2	916.6	902.3
70°	860.0	845.8	814.1	789.4	775.5
72.5°	726.2	712.0	694.4	669.8	659.2
75°	592.0	585.3	567.3	546.4	553.4
77.5°	472.3	458.1	450.9	440.5	430.0
80°	352.6	348.9	341.8	331.3	324.2
82.5°	239.7	239.7	236.3	222.1	222.1
85°	144.3	141.0	137.6	126.8	123.4
87.5°	63.6	56.4	49.4	38.9	35.1
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930363

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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	14.77	16.38	15.13	16.69	17.00	14.32	15.93	14.69	16.25	16.56
	3H	16.52	17.97	16.89	18.30	18.66	16.03	17.48	16.40	17.81	18.17
	4H	17.16	18.53	17.56	18.88	19.26	16.67	18.04	17.07	18.38	18.76
	6H	17.63	18.90	18.04	19.26	19.66	17.13	18.40	17.54	18.76	19.15
	8H	17.77	18.99	18.20	19.37	19.77	17.27	18.48	17.70	18.87	19.27
	12H	17.86	19.02	18.29	19.41	19.84	17.35	18.51	17.78	18.89	19.32
4H	2H	15.33	16.70	15.72	17.04	17.42	14.97	16.34	15.37	16.69	17.07
	3H	17.30	18.45	17.71	18.85	19.25	16.90	18.04	17.30	18.44	18.84
	4H	18.08	19.11	18.51	19.53	19.96	17.65	18.69	18.09	19.10	19.54
	6H	18.67	19.58	19.13	20.02	20.48	18.24	19.15	18.70	19.59	20.04
	8H	18.86	19.71	19.32	20.15	20.62	18.43	19.27	18.89	19.72	20.18
	12H	19.00	19.76	19.48	20.23	20.70	18.54	19.30	19.02	19.78	20.25
8H	4H	18.35	19.20	18.81	19.64	20.11	17.98	18.82	18.44	19.27	19.73
	6H	19.07	19.77	19.56	20.26	20.73	18.68	19.39	19.18	19.88	20.35
	8H	19.32	19.96	19.83	20.46	20.95	18.93	19.56	19.44	20.07	20.56
	12H	19.52	20.08	20.03	20.57	21.13	19.11	19.67	19.62	20.16	20.72
12H	4H	18.38	19.14	18.86	19.61	20.08	18.01	18.77	18.49	19.25	19.72
	6H	19.11	19.74	19.62	20.25	20.74	18.74	19.37	19.25	19.88	20.37
	8H	19.43	19.98	19.93	20.47	21.03	19.05	19.60	19.55	20.10	20.66