

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: P930201

Luminaire Tested: DFN2DS-HX3F0-070DS830-FLL

Issue Date: 11/20/2024

**Test Information**

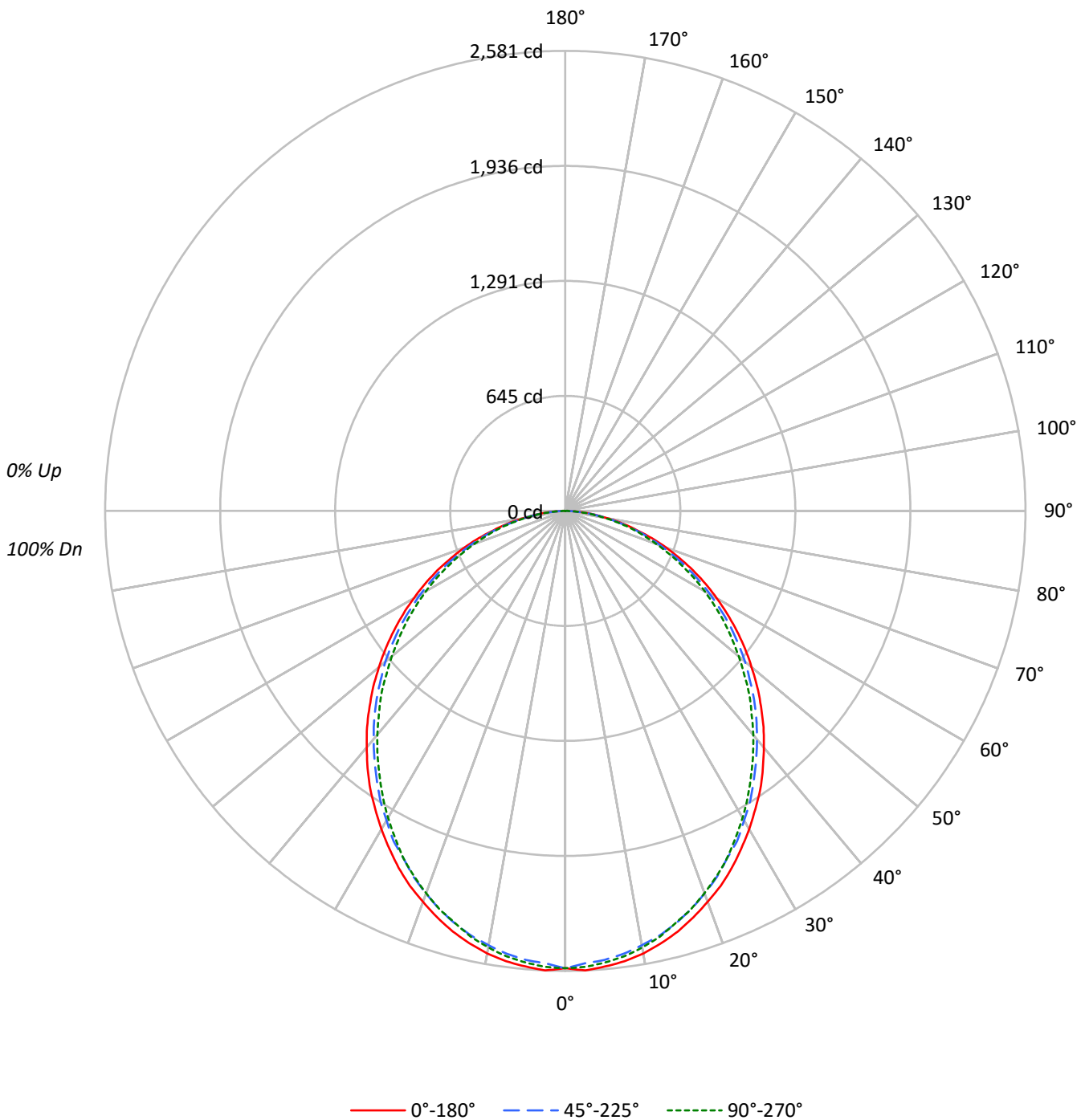
Test Method: LM-79-2019  
Report Number: P930201  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/20/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DS-HX3F0-070DS830-FLL  
Description: 3 foot, Hexagon Define Geo, with Direct Frosted Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6528.1 lumens  
Efficiency: N/A  
Efficacy: 88.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 3.28' x L: 2.84' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 73.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9789  
Total Harmonic Distortion (THDi): 0.074  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P930201  
CATALOG NUMBER: DFN2DS-HX3F0-070DS830-FLL

### Luminous Intensity Polar Plot





TEST NUMBER: P930201

CATALOG NUMBER: DFN2DS-HX3F0-070DS830-FLL

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									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	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°	2972	2972	2972
5°	2983	2941	2958
10°	2966	2911	2925
15°	2929	2873	2870
20°	2877	2816	2813
25°	2825	2747	2747
30°	2759	2683	2660
35°	2697	2606	2568
40°	2619	2529	2481
45°	2542	2453	2393
50°	2459	2374	2290
55°	2372	2282	2197
60°	2275	2172	2092
65°	2171	2063	1968
70°	2039	1930	1839
75°	1855	1777	1734
80°	1646	1596	1514
85°	1344	1281	1148

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2542 cd/sqm



TEST NUMBER: P930201

CATALOG NUMBER: DFN2DS-HX3F0-070DS830-FLL

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	241.5	3.7
10°-20°	679.5	10.4
20°-30°	998.5	15.3
30°-40°	1159.7	17.8
40°-50°	1158.3	17.7
50°-60°	1010.0	15.5
60°-70°	746.6	11.4
70°-80°	422.4	6.5
80°-90°	111.5	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°	1919.5	29.4
0°-40°	3079.2	47.2
0°-60°	5247.5	80.4
0°-90°	6528.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6528.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2566	2566	2566	2566	2566	
5°	2566	2556	2529	2548	2544	244
15°	2442	2428	2396	2406	2393	688
25°	2211	2191	2149	2154	2149	1017
35°	1907	1883	1843	1828	1816	1191
45°	1552	1535	1498	1471	1461	1198
55°	1174	1160	1130	1100	1088	1050
65°	792	777	753	730	718	783
75°	414	410	397	382	387	442
85°	101	99	96	89	86	119
90°	0	0	0	0	0	



TEST NUMBER: P930201

CATALOG NUMBER: DFN2DS-HX3F0-070DS830-FLL

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2565.7	2565.7	2565.7	2565.7	2565.7
2.5°	2580.7	2568.4	2541.1	2565.7	2561.0
5°	2565.7	2556.1	2528.9	2548.5	2543.8
7.5°	2548.5	2533.8	2506.6	2526.5	2521.5
10°	2521.5	2504.2	2474.6	2494.3	2487.0
12.5°	2484.3	2469.7	2440.2	2452.4	2447.4
15°	2442.5	2427.8	2395.6	2405.6	2393.2
17.5°	2390.6	2376.0	2343.8	2356.1	2343.8
20°	2333.8	2319.2	2284.6	2292.0	2282.3
22.5°	2277.3	2255.1	2222.8	2222.8	2217.8
25°	2210.6	2190.9	2149.1	2153.8	2149.1
27.5°	2136.5	2119.2	2087.3	2079.9	2067.6
30°	2062.7	2042.7	2005.9	1998.5	1988.6
32.5°	1983.6	1969.0	1929.4	1914.5	1904.5
35°	1907.2	1882.6	1843.0	1828.1	1815.8
37.5°	1820.8	1798.6	1759.0	1741.8	1729.4
40°	1732.1	1712.2	1672.6	1650.7	1640.7
42.5°	1645.7	1625.8	1586.5	1561.6	1547.0
45°	1551.9	1534.7	1497.5	1470.6	1460.6
47.5°	1460.6	1443.3	1403.8	1376.5	1361.9
50°	1364.3	1352.0	1317.4	1282.9	1270.6
52.5°	1270.6	1253.3	1221.4	1194.2	1176.8
55°	1174.5	1159.6	1130.0	1100.4	1088.1
57.5°	1078.2	1065.9	1033.7	1004.1	994.2
60°	981.8	972.1	937.7	910.4	903.1
62.5°	888.1	870.9	846.3	821.7	811.7
65°	792.1	777.2	752.6	730.3	718.0
67.5°	693.4	680.9	658.8	641.6	631.6
70°	602.0	592.1	569.8	552.6	542.9
72.5°	508.3	498.4	486.1	468.8	461.5
75°	414.4	409.7	397.1	382.5	387.4
77.5°	330.6	320.7	315.7	308.3	301.1
80°	246.8	244.3	239.3	231.9	226.9
82.5°	167.8	167.8	165.4	155.5	155.5
85°	101.1	98.7	96.4	88.7	86.4
87.5°	44.5	39.6	34.6	27.2	24.6
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P930201  
 CATALOG NUMBER: DFN2DS-HX3F0-070DS830-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	15.07	16.68	15.43	16.99	17.31	14.62	16.23	14.99	16.55	16.86
	3H	16.82	18.27	17.19	18.60	18.96	16.33	17.78	16.70	18.11	18.47
	4H	17.46	18.83	17.86	19.18	19.56	16.97	18.34	17.37	18.69	19.06
	6H	17.93	19.20	18.34	19.57	19.96	17.43	18.70	17.84	19.06	19.46
	8H	18.08	19.29	18.50	19.68	20.07	17.57	18.78	18.00	19.17	19.57
	12H	18.17	19.33	18.60	19.71	20.14	17.65	18.81	18.08	19.20	19.62
4H	2H	15.63	17.00	16.03	17.34	17.72	15.27	16.64	15.67	16.99	17.37
	3H	17.60	18.75	18.01	19.15	19.55	17.20	18.34	17.61	18.74	19.14
	4H	18.38	19.42	18.81	19.83	20.26	17.96	18.99	18.39	19.40	19.84
	6H	18.98	19.88	19.43	20.32	20.78	18.54	19.45	19.00	19.89	20.34
	8H	19.17	20.01	19.63	20.45	20.92	18.73	19.57	19.19	20.02	20.48
	12H	19.30	20.06	19.78	20.53	21.00	18.84	19.60	19.33	20.08	20.55
8H	4H	18.65	19.50	19.11	19.94	20.41	18.28	19.12	18.74	19.57	20.03
	6H	19.37	20.07	19.86	20.56	21.03	18.99	19.69	19.48	20.18	20.65
	8H	19.63	20.26	20.14	20.76	21.25	19.23	19.87	19.74	20.37	20.86
	12H	19.83	20.38	20.33	20.87	21.44	19.41	19.97	19.92	20.46	21.02
12H	4H	18.68	19.44	19.16	19.91	20.38	18.31	19.07	18.79	19.55	20.02
	6H	19.41	20.04	19.92	20.55	21.04	19.04	19.68	19.55	20.18	20.67
	8H	19.73	20.28	20.23	20.77	21.34	19.35	19.91	19.86	20.40	20.96