

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: P930310

Luminaire Tested: DFN2DS-HX4F0-070DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930310
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-HX4F0-070DS830-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

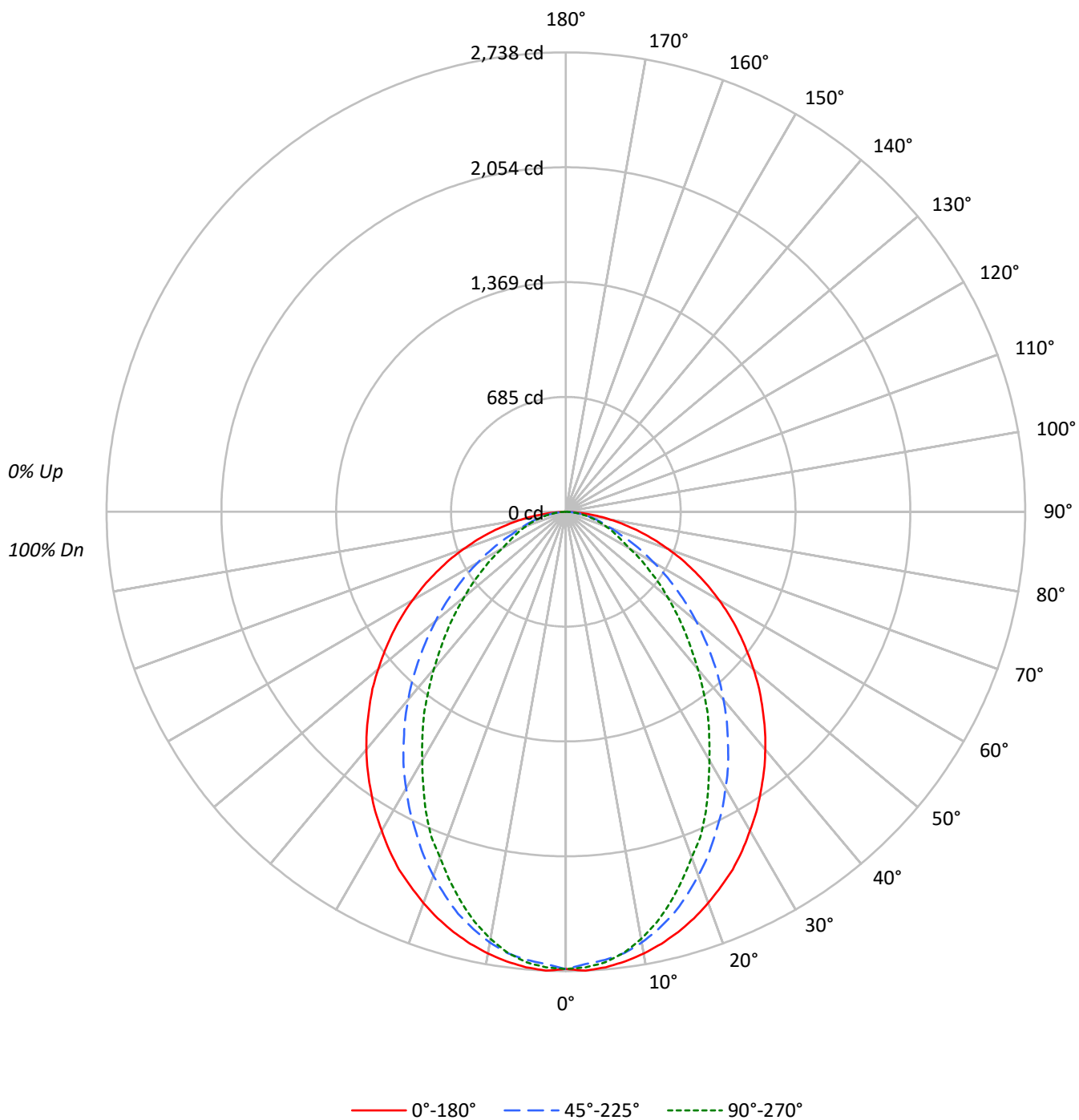
Lumens per Lamp: N/A
Luminaire Lumens: 5604.9 lumens
Efficiency: N/A
Efficacy: 78.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 71.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930310

CATALOG NUMBER: DFN2DS-HX4F0-070DS830-RLL

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	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2026	2026	2026
5°	2034	2001	2012
10°	2019	1968	1952
15°	1995	1910	1855
20°	1963	1827	1735
25°	1930	1732	1619
30°	1885	1635	1470
35°	1840	1529	1339
40°	1795	1420	1187
45°	1743	1297	1050
50°	1689	1173	916
55°	1634	1039	787
60°	1570	899	653
65°	1497	755	594
70°	1410	622	547
75°	1304	567	511
80°	1151	507	465
85°	904	399	399

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1743 cd/sqm

TEST NUMBER: P930310

CATALOG NUMBER: DFN2DS-HX4F0-070DS830-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.4	4.6
10°-20°	701.2	12.5
20°-30°	984.4	17.6
30°-40°	1073.1	19.1
40°-50°	986.3	17.6
50°-60°	774.6	13.8
60°-70°	504.2	9.0
70°-80°	259.5	4.6
80°-90°	66.2	1.2
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°	1941.0	34.6
0°-40°	3014.1	53.8
0°-60°	4775.0	85.2
0°-90°	5604.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5604.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2725	2725	2725	2725	2725	
5°	2725	2713	2681	2703	2696	258
15°	2592	2565	2481	2434	2410	730
25°	2353	2274	2111	2010	1973	1082
35°	2027	1902	1685	1529	1475	1269
45°	1657	1492	1233	1058	999	1280
55°	1260	1068	802	654	607	1126
65°	851	651	429	345	338	844
75°	454	281	197	180	178	480
85°	106	54	47	47	47	127
90°	0	0	0	0	0	

TEST NUMBER: P930310

CATALOG NUMBER: DFN2DS-HX4F0-070DS830-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2725.3	2725.3	2725.3	2725.3	2725.3
2.5°	2737.5	2725.3	2698.1	2722.9	2718.0
5°	2725.3	2713.0	2680.8	2703.1	2695.7
7.5°	2703.1	2688.4	2653.9	2663.5	2651.3
10°	2673.5	2656.3	2607.0	2599.4	2584.8
12.5°	2636.6	2614.3	2547.6	2532.9	2505.7
15°	2592.1	2564.9	2481.1	2434.3	2409.7
17.5°	2540.3	2500.8	2397.2	2342.9	2303.5
20°	2481.1	2431.7	2308.5	2247.0	2192.5
22.5°	2417.1	2360.3	2217.1	2133.3	2096.5
25°	2352.9	2273.9	2111.1	2010.1	1973.0
27.5°	2276.5	2192.5	2012.5	1896.6	1839.8
30°	2195.1	2101.2	1903.9	1778.3	1711.6
32.5°	2116.1	2002.6	1800.5	1652.5	1590.7
35°	2027.4	1901.5	1684.7	1529.2	1474.8
37.5°	1941.1	1805.2	1576.1	1405.7	1344.2
40°	1849.7	1701.9	1462.5	1287.4	1223.3
42.5°	1756.1	1598.3	1349.1	1166.5	1105.1
45°	1657.4	1492.0	1233.3	1058.0	998.8
47.5°	1563.7	1388.7	1122.3	947.0	892.8
50°	1460.1	1285.1	1013.7	843.4	791.8
52.5°	1358.8	1173.8	910.1	747.3	700.5
55°	1260.2	1067.9	801.5	653.7	606.8
57.5°	1159.2	961.9	705.5	567.3	527.8
60°	1055.6	858.3	604.2	478.6	439.1
62.5°	954.5	757.3	517.8	399.6	379.9
65°	850.9	651.0	429.2	345.4	337.8
67.5°	752.3	552.4	345.4	303.2	296.0
70°	648.7	456.3	286.0	261.4	251.4
72.5°	550.0	367.4	239.2	219.6	214.6
75°	453.8	281.0	197.3	180.0	177.7
77.5°	357.7	199.6	155.4	145.4	140.5
80°	268.8	143.1	118.3	108.6	108.6
82.5°	187.4	96.3	81.4	76.4	76.4
85°	106.0	54.2	46.8	46.8	46.8
87.5°	39.5	19.6	19.6	17.2	17.2
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930310

CATALOG NUMBER: DFN2DS-HX4F0-070DS830-RLL

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	13.69	15.21	14.05	15.52	15.84	9.65	11.17	10.01	11.48	11.80
	3H	15.45	16.82	15.83	17.15	17.51	10.91	12.28	11.29	12.61	12.97
	4H	16.12	17.40	16.52	17.75	18.13	11.42	12.70	11.82	13.05	13.42
	6H	16.61	17.79	17.02	18.16	18.55	11.80	12.98	12.21	13.35	13.74
	8H	16.77	17.90	17.20	18.29	18.69	11.92	13.05	12.35	13.44	13.84
	12H	16.88	17.96	17.31	18.34	18.77	12.00	13.08	12.43	13.46	13.89
4H	2H	13.79	15.07	14.19	15.42	15.80	10.34	11.63	10.74	11.97	12.35
	3H	15.73	16.79	16.14	17.19	17.59	11.79	12.85	12.20	13.25	13.65
	4H	16.48	17.43	16.91	17.85	18.29	12.39	13.34	12.82	13.76	14.20
	6H	17.07	17.90	17.52	18.34	18.80	12.88	13.71	13.33	14.15	14.61
	8H	17.28	18.06	17.74	18.50	18.97	13.04	13.81	13.50	14.26	14.73
	12H	17.44	18.13	17.92	18.61	19.08	13.15	13.85	13.64	14.33	14.80
8H	4H	16.50	17.28	16.96	17.72	18.19	12.74	13.52	13.20	13.96	14.43
	6H	17.14	17.78	17.63	18.27	18.75	13.33	13.97	13.82	14.46	14.94
	8H	17.39	17.96	17.90	18.47	18.96	13.55	14.13	14.06	14.63	15.12
	12H	17.59	18.10	18.10	18.59	19.16	13.73	14.24	14.24	14.73	15.29
12H	4H	16.48	17.18	16.97	17.66	18.13	12.78	13.48	13.27	13.96	14.43
	6H	17.12	17.70	17.63	18.21	18.69	13.39	13.97	13.90	14.48	14.97
	8H	17.40	17.91	17.91	18.40	18.97	13.66	14.17	14.17	14.67	15.23