

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: P930316

Luminaire Tested: DFN2DS-HX4F0-070DS850-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930316
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-HX4F0-070DS850-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

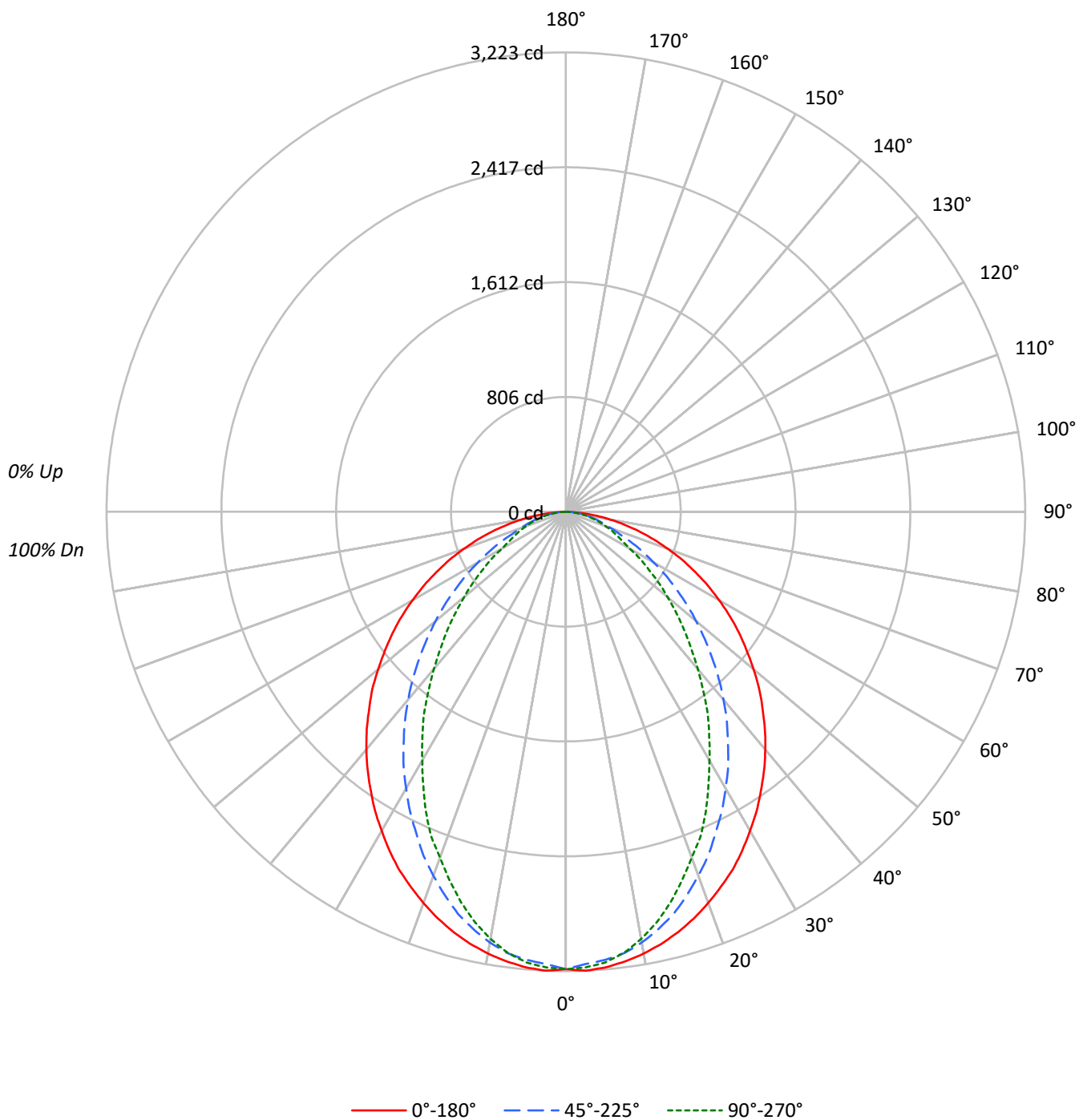
Lumens per Lamp: N/A
Luminaire Lumens: 6598.5 lumens
Efficiency: N/A
Efficacy: 92.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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

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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°	2386	2386	2386
5°	2395	2356	2369
10°	2376	2317	2298
15°	2349	2249	2184
20°	2311	2150	2042
25°	2273	2039	1906
30°	2219	1924	1730
35°	2167	1800	1576
40°	2114	1671	1398
45°	2052	1527	1237
50°	1989	1381	1078
55°	1923	1223	926
60°	1848	1058	769
65°	1763	889	700
70°	1660	732	644
75°	1535	667	601
80°	1355	596	548
85°	1065	470	470

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2052 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	300.7	4.6
10°-20°	825.5	12.5
20°-30°	1158.9	17.6
30°-40°	1263.3	19.1
40°-50°	1161.1	17.6
50°-60°	911.9	13.8
60°-70°	593.5	9.0
70°-80°	305.5	4.6
80°-90°	78.0	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°	2285.1	34.6
0°-40°	3548.4	53.8
0°-60°	5621.4	85.2
0°-90°	6598.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6598.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3208	3208	3208	3208	3208	
5°	3208	3194	3156	3182	3174	304
15°	3052	3020	2921	2866	2837	860
25°	2770	2677	2485	2366	2323	1274
35°	2387	2239	1983	1800	1736	1494
45°	1951	1756	1452	1246	1176	1507
55°	1484	1257	944	770	714	1326
65°	1002	766	505	407	398	993
75°	534	331	232	212	209	565
85°	125	64	55	55	55	150
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3208.4	3208.4	3208.4	3208.4	3208.4
2.5°	3222.9	3208.4	3176.4	3205.7	3199.8
5°	3208.4	3193.9	3156.1	3182.3	3173.6
7.5°	3182.3	3165.0	3124.4	3135.7	3121.3
10°	3147.5	3127.2	3069.2	3060.3	3043.0
12.5°	3104.0	3077.8	2999.3	2982.0	2949.9
15°	3051.6	3019.6	2921.0	2865.9	2836.9
17.5°	2990.6	2944.2	2822.2	2758.3	2711.8
20°	2921.0	2862.8	2717.7	2645.3	2581.2
22.5°	2845.6	2778.7	2610.1	2511.6	2468.2
25°	2770.1	2677.0	2485.4	2366.5	2322.8
27.5°	2680.1	2581.2	2369.3	2232.9	2166.0
30°	2584.3	2473.7	2241.4	2093.6	2015.1
32.5°	2491.3	2357.6	2119.7	1945.4	1872.7
35°	2386.8	2238.6	1983.3	1800.4	1736.3
37.5°	2285.2	2125.3	1855.5	1654.8	1582.5
40°	2177.6	2003.6	1721.7	1515.7	1440.1
42.5°	2067.4	1881.6	1588.3	1373.3	1301.0
45°	1951.3	1756.5	1451.9	1245.5	1175.9
47.5°	1840.9	1634.9	1321.3	1114.9	1051.1
50°	1719.0	1512.9	1193.4	992.9	932.2
52.5°	1599.7	1381.9	1071.4	879.8	824.7
55°	1483.6	1257.2	943.5	769.5	714.4
57.5°	1364.7	1132.4	830.5	667.8	621.4
60°	1242.7	1010.4	711.3	563.5	516.9
62.5°	1123.7	891.5	609.6	470.4	447.3
65°	1001.8	766.4	505.3	406.7	397.7
67.5°	885.6	650.3	406.7	357.0	348.4
70°	763.7	537.2	336.7	307.7	296.0
72.5°	647.5	432.5	281.6	258.5	252.6
75°	534.2	330.8	232.2	211.9	209.2
77.5°	421.1	235.0	183.0	171.2	165.5
80°	316.4	168.5	139.3	127.9	127.9
82.5°	220.6	113.3	95.8	89.9	89.9
85°	124.8	63.8	55.1	55.1	55.1
87.5°	46.5	23.1	23.1	20.3	20.3
90°	0.0	0.0	0.0	0.0	0.0

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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	14.26	15.78	14.62	16.09	16.41	10.22	11.74	10.58	12.05	12.37
	3H	16.02	17.39	16.40	17.71	18.08	11.48	12.85	11.86	13.17	13.54
	4H	16.69	17.97	17.09	18.32	18.69	11.98	13.26	12.38	13.61	13.99
	6H	17.18	18.36	17.59	18.73	19.12	12.36	13.55	12.78	13.91	14.31
	8H	17.34	18.47	17.77	18.86	19.26	12.49	13.61	12.91	14.00	14.41
	12H	17.44	18.52	17.88	18.90	19.33	12.57	13.65	13.00	14.03	14.46
4H	2H	14.36	15.64	14.76	15.99	16.37	10.91	12.19	11.31	12.54	12.92
	3H	16.29	17.36	16.70	17.76	18.16	12.35	13.42	12.77	13.82	14.22
	4H	17.04	18.00	17.47	18.41	18.85	12.95	13.91	13.39	14.33	14.76
	6H	17.63	18.47	18.09	18.91	19.37	13.44	14.27	13.90	14.72	15.18
	8H	17.85	18.63	18.31	19.07	19.54	13.60	14.38	14.07	14.83	15.29
	12H	18.00	18.70	18.48	19.17	19.65	13.72	14.42	14.20	14.89	15.37
8H	4H	17.07	17.84	17.53	18.29	18.75	13.31	14.09	13.77	14.53	15.00
	6H	17.70	18.35	18.20	18.84	19.31	13.89	14.54	14.39	15.03	15.51
	8H	17.95	18.53	18.47	19.04	19.53	14.12	14.69	14.63	15.20	15.69
	12H	18.16	18.67	18.67	19.16	19.72	14.29	14.80	14.80	15.30	15.86
12H	4H	17.05	17.75	17.53	18.22	18.69	13.35	14.05	13.83	14.52	14.99
	6H	17.68	18.26	18.20	18.77	19.26	13.96	14.54	14.47	15.05	15.53
	8H	17.97	18.48	18.48	18.97	19.54	14.23	14.74	14.74	15.23	15.80