

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: P930314

Luminaire Tested: DFN2DS-HX4F0-070DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930314
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-HX4F0-070DS840-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

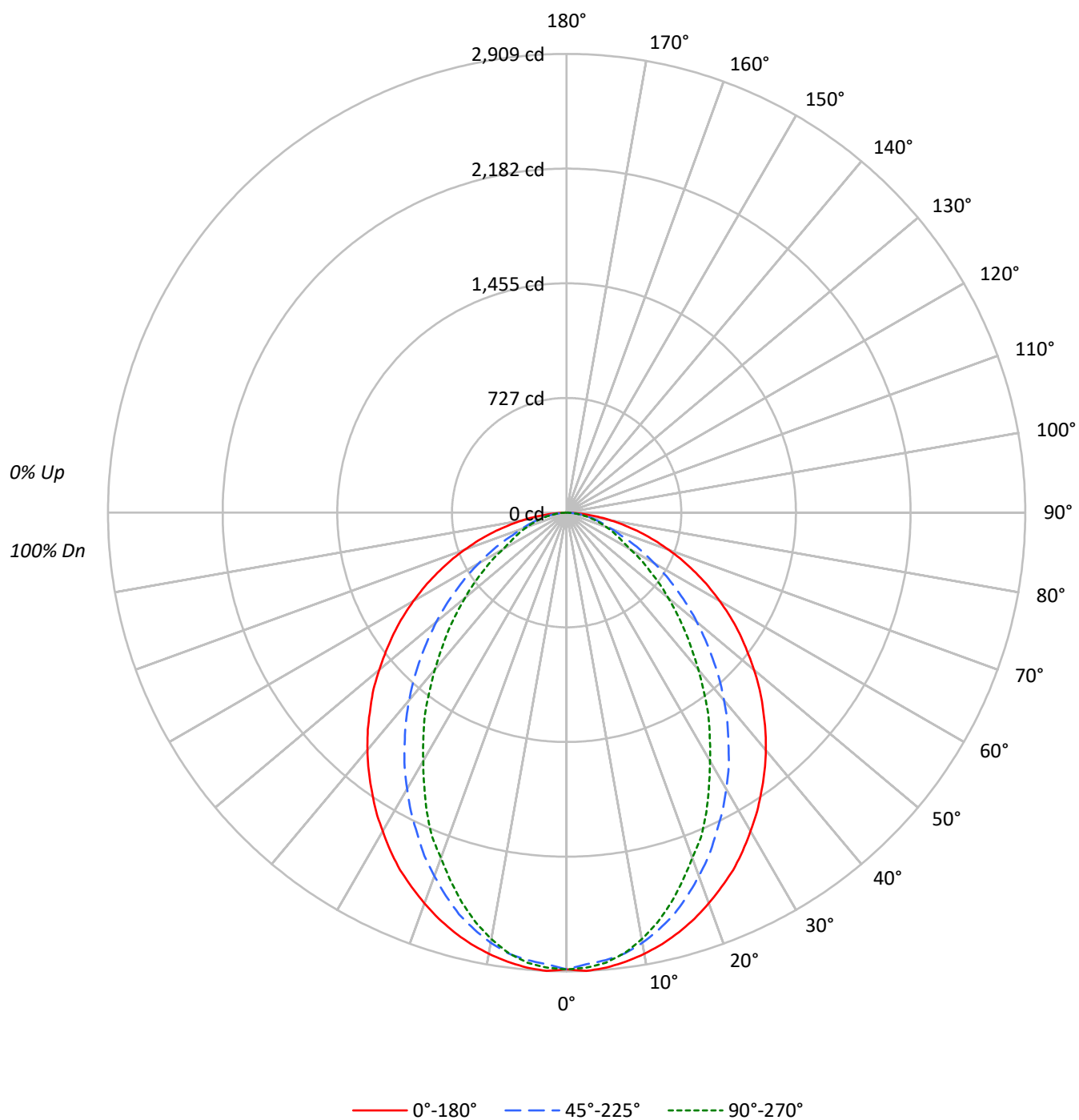
Lumens per Lamp: N/A
Luminaire Lumens: 5955.9 lumens
Efficiency: N/A
Efficacy: 83.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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°	2153	2153	2153
5°	2162	2126	2138
10°	2145	2092	2074
15°	2120	2030	1971
20°	2086	1941	1844
25°	2051	1840	1720
30°	2003	1737	1562
35°	1956	1625	1423
40°	1908	1508	1262
45°	1852	1378	1116
50°	1795	1246	973
55°	1736	1104	836
60°	1668	955	694
65°	1591	802	632
70°	1499	661	581
75°	1385	602	542
80°	1223	538	494
85°	961	424	424

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1852 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.4	4.6
10°-20°	745.1	12.5
20°-30°	1046.1	17.6
30°-40°	1140.3	19.1
40°-50°	1048.1	17.6
50°-60°	823.1	13.8
60°-70°	535.7	9.0
70°-80°	275.8	4.6
80°-90°	70.4	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°	2062.6	34.6
0°-40°	3202.9	53.8
0°-60°	5074.0	85.2
0°-90°	5955.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5955.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2896	2896	2896	2896	2896	
5°	2896	2883	2849	2872	2865	275
15°	2754	2726	2636	2587	2561	776
25°	2500	2416	2243	2136	2097	1150
35°	2154	2021	1790	1625	1567	1348
45°	1761	1586	1310	1124	1061	1360
55°	1339	1135	852	695	645	1197
65°	904	692	456	367	359	896
75°	482	299	210	191	189	510
85°	113	58	50	50	50	135
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2896.0	2896.0	2896.0	2896.0	2896.0
2.5°	2909.0	2896.0	2867.1	2893.5	2888.2
5°	2896.0	2882.9	2848.7	2872.4	2864.6
7.5°	2872.4	2856.8	2820.1	2830.3	2817.3
10°	2840.9	2822.6	2770.3	2762.3	2746.6
12.5°	2801.7	2778.1	2707.2	2691.6	2662.7
15°	2754.5	2725.5	2636.5	2586.8	2560.7
17.5°	2699.4	2657.5	2547.3	2489.7	2447.7
20°	2636.5	2584.0	2453.1	2387.7	2329.8
22.5°	2568.5	2508.1	2356.0	2267.0	2227.8
25°	2500.3	2416.3	2243.3	2136.0	2096.6
27.5°	2419.1	2329.8	2138.5	2015.4	1955.1
30°	2332.6	2232.8	2023.1	1889.7	1818.8
32.5°	2248.6	2128.0	1913.3	1756.0	1690.3
35°	2154.4	2020.6	1790.2	1625.0	1567.2
37.5°	2062.7	1918.3	1674.8	1493.7	1428.4
40°	1965.6	1808.5	1554.1	1368.1	1299.9
42.5°	1866.1	1698.4	1433.6	1239.5	1174.3
45°	1761.3	1585.5	1310.5	1124.2	1061.4
47.5°	1661.7	1475.7	1192.6	1006.3	948.7
50°	1551.5	1365.6	1077.2	896.2	841.4
52.5°	1443.9	1247.3	967.1	794.1	744.3
55°	1339.1	1134.7	851.7	694.6	644.8
57.5°	1231.8	1022.1	749.6	602.8	560.9
60°	1121.7	912.0	642.0	508.6	466.6
62.5°	1014.3	804.7	550.2	424.6	403.7
65°	904.2	691.8	456.1	367.1	359.0
67.5°	799.4	587.0	367.1	322.2	314.5
70°	689.3	484.9	303.9	277.8	267.2
72.5°	584.5	390.4	254.2	233.3	228.0
75°	482.2	298.6	209.6	191.3	188.8
77.5°	380.1	212.1	165.2	154.6	149.3
80°	285.6	152.1	125.7	115.4	115.4
82.5°	199.1	102.3	86.5	81.2	81.2
85°	112.6	57.6	49.7	49.7	49.7
87.5°	41.9	20.8	20.8	18.3	18.3
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	13.90	15.42	14.26	15.73	16.05	9.86	11.38	10.23	11.70	12.01
	3H	15.66	17.03	16.04	17.36	17.72	11.13	12.49	11.50	12.82	13.18
	4H	16.33	17.61	16.73	17.96	18.34	11.63	12.91	12.03	13.26	13.63
	6H	16.82	18.00	17.23	18.37	18.76	12.01	13.19	12.42	13.56	13.95
	8H	16.99	18.11	17.41	18.50	18.90	12.13	13.26	12.56	13.65	14.05
	12H	17.09	18.17	17.52	18.55	18.98	12.21	13.29	12.64	13.67	14.10
4H	2H	14.00	15.28	14.40	15.63	16.01	10.56	11.84	10.96	12.19	12.56
	3H	15.94	17.00	16.35	17.40	17.80	12.00	13.06	12.41	13.46	13.86
	4H	16.69	17.64	17.12	18.06	18.50	12.60	13.55	13.03	13.97	14.41
	6H	17.28	18.11	17.74	18.55	19.01	13.09	13.92	13.54	14.36	14.82
	8H	17.49	18.27	17.96	18.71	19.18	13.25	14.03	13.71	14.47	14.94
	12H	17.65	18.34	18.13	18.82	19.29	13.37	14.06	13.85	14.54	15.01
8H	4H	16.71	17.49	17.17	17.93	18.40	12.95	13.73	13.42	14.17	14.64
	6H	17.35	17.99	17.84	18.48	18.96	13.54	14.18	14.04	14.67	15.15
	8H	17.60	18.17	18.11	18.68	19.17	13.76	14.34	14.27	14.85	15.33
	12H	17.80	18.31	18.31	18.80	19.37	13.94	14.45	14.45	14.94	15.51
12H	4H	16.69	17.39	17.18	17.87	18.34	13.00	13.69	13.48	14.17	14.64
	6H	17.33	17.91	17.84	18.42	18.90	13.60	14.18	14.12	14.69	15.18
	8H	17.61	18.12	18.12	18.62	19.18	13.88	14.39	14.38	14.88	15.44