

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: P930322

Luminaire Tested: DFN2DS-HX4F0-070DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930322
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-HX4F0-070DS935-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

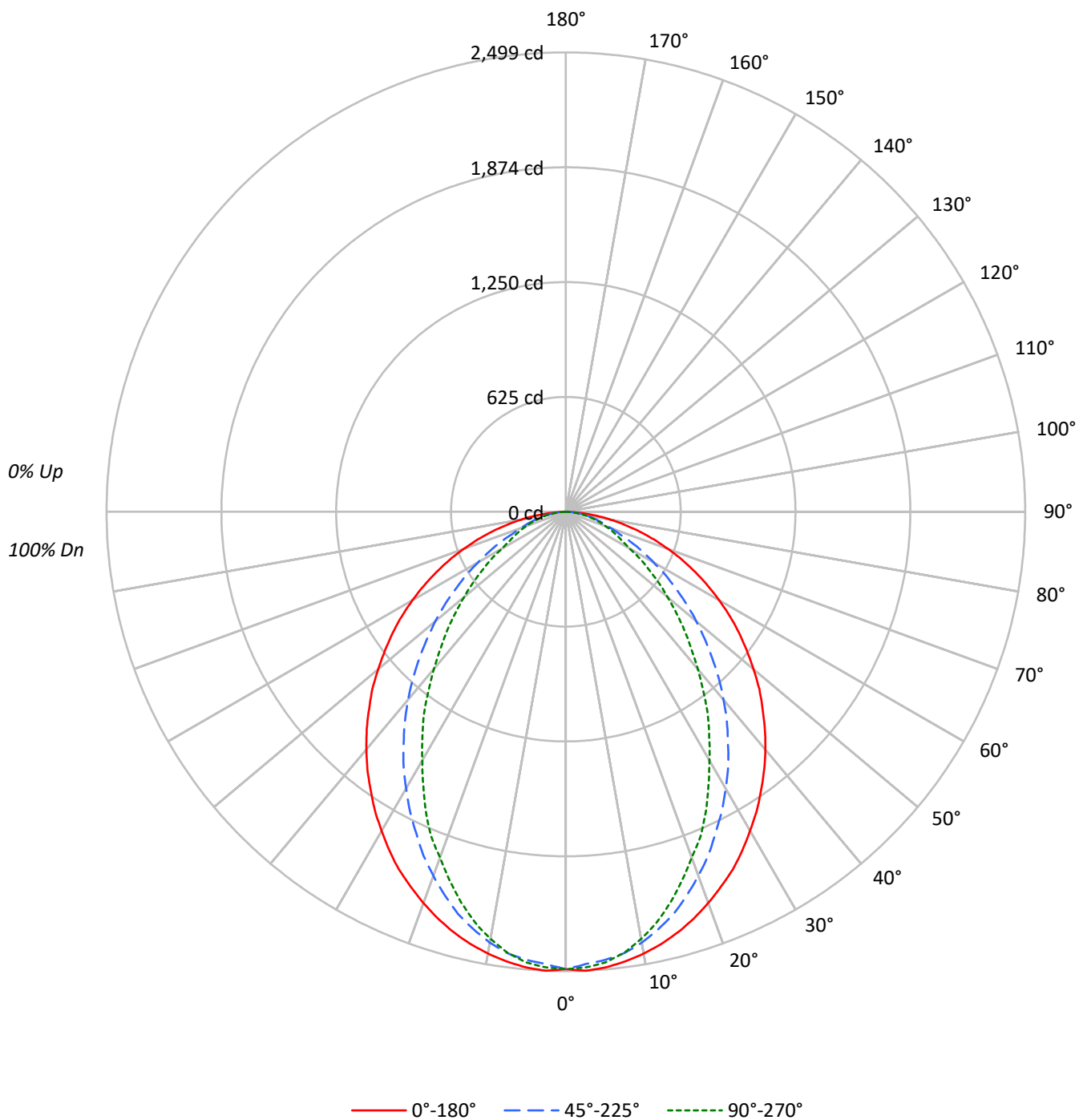
Lumens per Lamp: N/A
Luminaire Lumens: 5117.0 lumens
Efficiency: N/A
Efficacy: 72.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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°	1850	1850	1850
5°	1857	1827	1837
10°	1843	1797	1782
15°	1822	1744	1694
20°	1792	1668	1584
25°	1762	1581	1478
30°	1721	1492	1342
35°	1680	1396	1222
40°	1639	1296	1084
45°	1591	1184	959
50°	1542	1070	836
55°	1491	949	718
60°	1433	820	596
65°	1367	689	543
70°	1287	568	499
75°	1190	517	466
80°	1051	462	425
85°	826	364	364

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1591 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	233.2	4.6
10°-20°	640.1	12.5
20°-30°	898.7	17.6
30°-40°	979.7	19.1
40°-50°	900.4	17.6
50°-60°	707.1	13.8
60°-70°	460.3	9.0
70°-80°	236.9	4.6
80°-90°	60.5	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°	1772.1	34.6
0°-40°	2751.7	53.8
0°-60°	4359.3	85.2
0°-90°	5117.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5117.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2488	2488	2488	2488	2488	
5°	2488	2477	2448	2468	2461	236
15°	2366	2342	2265	2222	2200	667
25°	2148	2076	1927	1835	1801	988
35°	1851	1736	1538	1396	1346	1158
45°	1513	1362	1126	966	912	1169
55°	1150	975	732	597	554	1028
65°	777	594	392	315	308	770
75°	414	256	180	164	162	438
85°	97	49	43	43	43	116
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2488.1	2488.1	2488.1	2488.1	2488.1
2.5°	2499.2	2488.1	2463.2	2485.9	2481.4
5°	2488.1	2476.8	2447.5	2467.8	2461.1
7.5°	2467.8	2454.4	2422.9	2431.6	2420.5
10°	2440.8	2425.0	2380.0	2373.2	2359.8
12.5°	2407.1	2386.8	2325.9	2312.5	2287.6
15°	2366.5	2341.6	2265.2	2222.4	2200.0
17.5°	2319.2	2283.1	2188.5	2139.0	2103.0
20°	2265.2	2220.0	2107.5	2051.4	2001.6
22.5°	2206.7	2154.8	2024.1	1947.6	1914.0
25°	2148.1	2076.0	1927.3	1835.2	1801.3
27.5°	2078.4	2001.6	1837.3	1731.5	1679.7
30°	2004.1	1918.3	1738.1	1623.5	1562.6
32.5°	1931.9	1828.3	1643.8	1508.6	1452.2
35°	1850.9	1736.0	1538.0	1396.1	1346.4
37.5°	1772.1	1648.1	1438.9	1283.3	1227.2
40°	1688.7	1553.8	1335.2	1175.4	1116.8
42.5°	1603.2	1459.2	1231.7	1064.9	1008.9
45°	1513.2	1362.2	1125.9	965.9	911.9
47.5°	1427.6	1267.8	1024.6	864.6	815.1
50°	1333.0	1173.2	925.4	770.0	722.9
52.5°	1240.6	1071.6	830.8	682.2	639.5
55°	1150.5	974.9	731.7	596.8	554.0
57.5°	1058.3	878.1	644.1	517.9	481.9
60°	963.7	783.5	551.6	437.0	400.8
62.5°	871.4	691.4	472.7	364.8	346.8
65°	776.8	594.3	391.8	315.4	308.4
67.5°	686.8	504.3	315.4	276.8	270.2
70°	592.2	416.6	261.1	238.6	229.5
72.5°	502.2	335.4	218.4	200.5	195.9
75°	414.3	256.5	180.1	164.3	162.2
77.5°	326.5	182.2	141.9	132.8	128.3
80°	245.4	130.6	108.0	99.2	99.2
82.5°	171.1	87.9	74.3	69.7	69.7
85°	96.8	49.4	42.7	42.7	42.7
87.5°	36.0	17.9	17.9	15.7	15.7
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	13.37	14.89	13.74	15.21	15.52	9.33	10.85	9.70	11.17	11.48
	3H	15.14	16.50	15.51	16.83	17.19	10.60	11.96	10.98	12.29	12.65
	4H	15.80	17.08	16.20	17.43	17.81	11.10	12.38	11.50	12.73	13.11
	6H	16.29	17.48	16.70	17.84	18.23	11.48	12.66	11.89	13.03	13.42
	8H	16.46	17.58	16.88	17.97	18.38	11.60	12.73	12.03	13.12	13.52
	12H	16.56	17.64	16.99	18.02	18.45	11.69	12.76	12.12	13.15	13.58
4H	2H	13.48	14.76	13.88	15.11	15.48	10.03	11.31	10.43	11.66	12.04
	3H	15.41	16.47	15.82	16.87	17.27	11.47	12.53	11.88	12.93	13.33
	4H	16.16	17.12	16.59	17.53	17.97	12.07	13.03	12.50	13.44	13.88
	6H	16.75	17.58	17.21	18.02	18.48	12.56	13.39	13.02	13.83	14.29
	8H	16.96	17.74	17.43	18.19	18.65	12.72	13.50	13.18	13.94	14.41
	12H	17.12	17.81	17.60	18.29	18.76	12.84	13.53	13.32	14.01	14.48
8H	4H	16.18	16.96	16.65	17.40	17.87	12.42	13.20	12.89	13.65	14.11
	6H	16.82	17.46	17.32	17.95	18.43	13.01	13.65	13.51	14.14	14.62
	8H	17.07	17.65	17.58	18.16	18.65	13.23	13.81	13.75	14.32	14.81
	12H	17.27	17.78	17.78	18.28	18.84	13.41	13.92	13.92	14.41	14.98
12H	4H	16.17	16.86	16.65	17.34	17.81	12.47	13.16	12.95	13.64	14.11
	6H	16.80	17.38	17.31	17.89	18.38	13.07	13.65	13.59	14.16	14.65
	8H	17.09	17.60	17.60	18.09	18.65	13.35	13.86	13.86	14.35	14.91