

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: P930278

Luminaire Tested: DFN2DS-HX4F0-050DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930278
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-HX4F0-050DS840-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

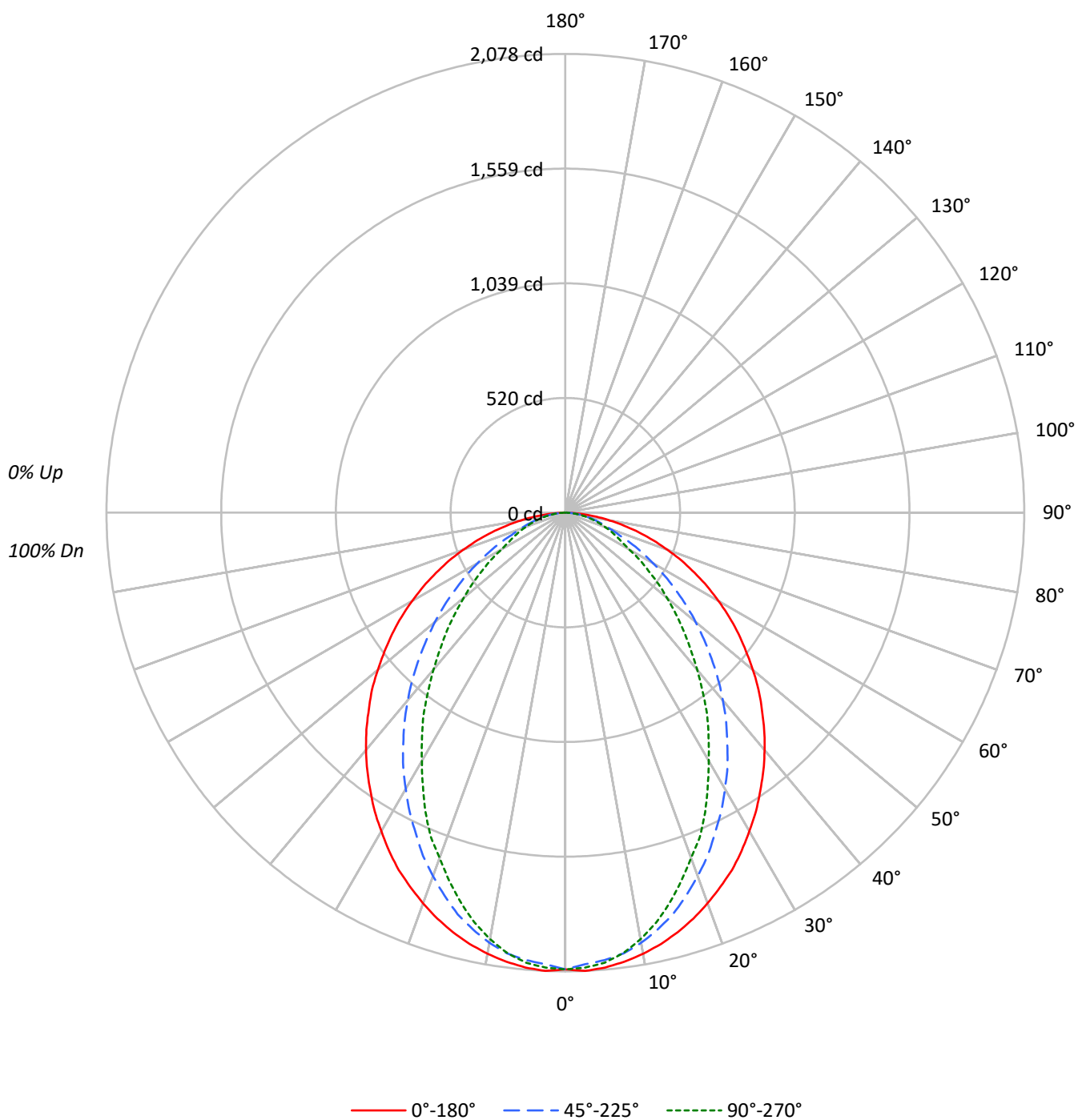
Lumens per Lamp: N/A
Luminaire Lumens: 4254.3 lumens
Efficiency: N/A
Efficacy: 87.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 48.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9957
Total Harmonic Distortion (THDi): 0.049
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°	1538	1538	1538
5°	1544	1519	1527
10°	1532	1494	1481
15°	1515	1450	1408
20°	1490	1386	1317
25°	1465	1315	1229
30°	1431	1241	1115
35°	1397	1161	1016
40°	1363	1077	901
45°	1323	984	797
50°	1282	890	695
55°	1240	789	597
60°	1191	682	496
65°	1136	573	451
70°	1070	472	415
75°	989	430	387
80°	874	385	353
85°	687	303	303

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1323 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.9	4.6
10°-20°	532.2	12.5
20°-30°	747.2	17.6
30°-40°	814.5	19.1
40°-50°	748.6	17.6
50°-60°	587.9	13.8
60°-70°	382.7	9.0
70°-80°	197.0	4.6
80°-90°	50.3	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°	1473.3	34.6
0°-40°	2287.8	53.8
0°-60°	3624.3	85.2
0°-90°	4254.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4254.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2069	2069	2069	2069	2069	
5°	2069	2059	2035	2052	2046	196
15°	1968	1947	1883	1848	1829	554
25°	1786	1726	1602	1526	1498	821
35°	1539	1443	1279	1161	1119	963
45°	1258	1132	936	803	758	972
55°	957	810	608	496	461	855
65°	646	494	326	262	256	640
75°	344	213	150	137	135	364
85°	80	41	36	36	36	96
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2068.6	2068.6	2068.6	2068.6	2068.6
2.5°	2077.9	2068.6	2047.9	2066.8	2063.0
5°	2068.6	2059.3	2034.8	2051.6	2046.1
7.5°	2051.6	2040.5	2014.3	2021.7	2012.3
10°	2029.2	2016.1	1978.8	1973.1	1961.9
12.5°	2001.2	1984.4	1933.7	1922.6	1901.9
15°	1967.5	1946.8	1883.3	1847.7	1829.0
17.5°	1928.1	1898.2	1819.5	1778.4	1748.3
20°	1883.3	1845.7	1752.2	1705.5	1664.2
22.5°	1834.6	1791.5	1682.9	1619.3	1591.3
25°	1785.9	1725.9	1602.4	1525.7	1497.5
27.5°	1727.9	1664.2	1527.5	1439.5	1396.5
30°	1666.2	1594.9	1445.1	1349.7	1299.1
32.5°	1606.2	1520.0	1366.7	1254.3	1207.4
35°	1538.8	1443.3	1278.7	1160.7	1119.4
37.5°	1473.3	1370.3	1196.3	1067.0	1020.3
40°	1404.0	1291.8	1110.0	977.2	928.5
42.5°	1332.9	1213.1	1024.0	885.4	838.7
45°	1258.1	1132.5	936.0	803.0	758.1
47.5°	1186.9	1054.1	851.9	718.8	677.7
50°	1108.3	975.4	769.5	640.1	601.0
52.5°	1031.4	891.0	690.8	567.3	531.7
55°	956.6	810.5	608.3	496.1	460.6
57.5°	879.9	730.1	535.4	430.6	400.6
60°	801.2	651.5	458.6	363.3	333.2
62.5°	724.5	574.8	393.1	303.3	288.4
65°	645.8	494.2	325.7	262.2	256.5
67.5°	571.0	419.3	262.2	230.2	224.6
70°	492.4	346.3	217.1	198.4	190.9
72.5°	417.5	278.9	181.6	166.7	162.9
75°	344.4	213.3	149.7	136.6	134.8
77.5°	271.5	151.6	118.0	110.4	106.6
80°	204.0	108.6	89.8	82.4	82.4
82.5°	142.2	73.1	61.8	58.0	58.0
85°	80.5	41.1	35.5	35.5	35.5
87.5°	30.0	14.9	14.9	13.1	13.1
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	12.73	14.25	13.10	14.57	14.88	8.69	10.21	9.06	10.53	10.84
	3H	14.50	15.86	14.87	16.19	16.55	9.96	11.32	10.33	11.65	12.01
	4H	15.16	16.44	15.56	16.79	17.17	10.46	11.74	10.86	12.09	12.47
	6H	15.65	16.83	16.06	17.20	17.59	10.84	12.02	11.25	12.39	12.78
	8H	15.82	16.94	16.24	17.33	17.73	10.96	12.09	11.39	12.48	12.88
	12H	15.92	17.00	16.35	17.38	17.81	11.04	12.12	11.47	12.50	12.93
4H	2H	12.83	14.12	13.23	14.46	14.84	9.39	10.67	9.79	11.02	11.39
	3H	14.77	15.83	15.18	16.23	16.63	10.83	11.89	11.24	12.29	12.69
	4H	15.52	16.47	15.95	16.89	17.33	11.43	12.39	11.86	12.80	13.24
	6H	16.11	16.94	16.57	17.38	17.84	11.92	12.75	12.37	13.19	13.65
	8H	16.32	17.10	16.79	17.55	18.01	12.08	12.86	12.54	13.30	13.77
	12H	16.48	17.17	16.96	17.65	18.12	12.20	12.89	12.68	13.37	13.84
8H	4H	15.54	16.32	16.00	16.76	17.23	11.78	12.56	12.25	13.00	13.47
	6H	16.18	16.82	16.68	17.31	17.79	12.37	13.01	12.87	13.50	13.98
	8H	16.43	17.01	16.94	17.52	18.00	12.59	13.17	13.10	13.68	14.16
	12H	16.63	17.14	17.14	17.64	18.20	12.77	13.28	13.28	13.77	14.34
12H	4H	15.53	16.22	16.01	16.70	17.17	11.83	12.52	12.31	13.00	13.47
	6H	16.16	16.74	16.67	17.25	17.74	12.43	13.01	12.95	13.52	14.01
	8H	16.44	16.95	16.95	17.45	18.01	12.71	13.22	13.22	13.71	14.27