

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: P930098

Luminaire Tested: DFN2DS-HX2F0-050DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930098
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-HX2F0-050DS840-RLL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

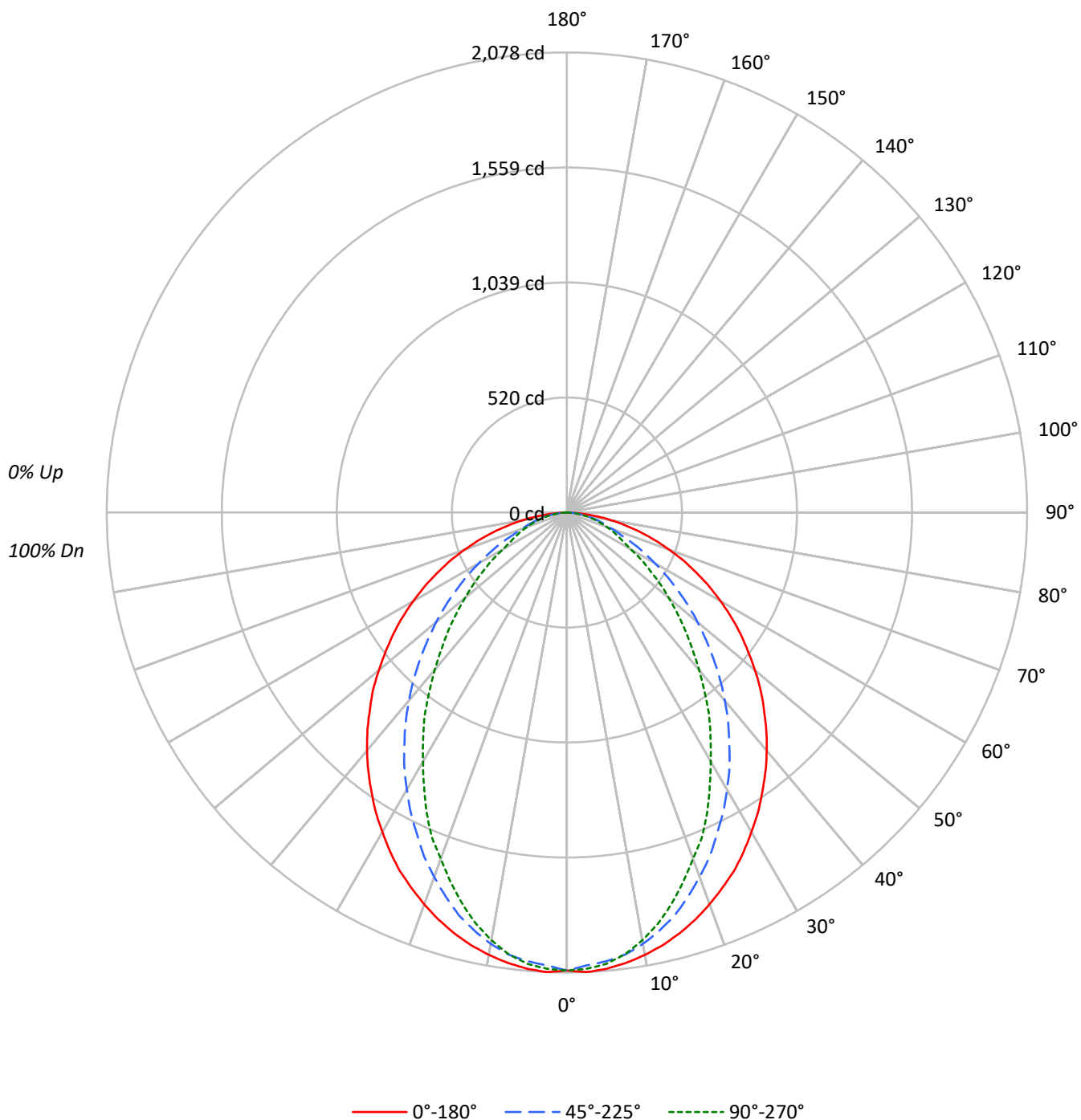
Lumens per Lamp: N/A
Luminaire Lumens: 4254.3 lumens
Efficiency: N/A
Efficacy: 85.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.3' x L: 1.99' x H: 0')
CIE Type: Direct

Input Watts (W): 49.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930098

CATALOG NUMBER: DFN2DS-HX2F0-050DS840-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°	4874	4874	4874
5°	4893	4813	4839
10°	4855	4734	4694
15°	4799	4594	4461
20°	4722	4393	4173
25°	4643	4166	3893
30°	4533	3932	3534
35°	4426	3678	3220
40°	4318	3414	2856
45°	4192	3119	2526
50°	4062	2821	2203
55°	3930	2499	1892
60°	3775	2161	1570
65°	3600	1816	1430
70°	3392	1496	1315
75°	3135	1363	1227
80°	2768	1218	1118
85°	2176	960	960

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 4192 cd/sqm

TEST NUMBER: P930098

CATALOG NUMBER: DFN2DS-HX2F0-050DS840-RLL

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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CATALOG NUMBER: DFN2DS-HX2F0-050DS840-RLL

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	16.74	18.26	17.10	18.57	18.89	12.70	14.22	13.06	14.53	14.85
	3H	18.50	19.87	18.88	20.20	20.56	13.96	15.33	14.34	15.66	16.02
	4H	19.17	20.45	19.57	20.80	21.18	14.46	15.75	14.86	16.09	16.47
	6H	19.66	20.84	20.07	21.21	21.60	14.85	16.03	15.26	16.39	16.79
	8H	19.82	20.95	20.25	21.34	21.74	14.97	16.10	15.40	16.49	16.89
	12H	19.93	21.01	20.36	21.39	21.82	15.05	16.13	15.48	16.51	16.94
4H	2H	16.84	18.12	17.24	18.47	18.85	13.39	14.67	13.79	15.02	15.40
	3H	18.77	19.84	19.19	20.24	20.64	14.84	15.90	15.25	16.30	16.70
	4H	19.52	20.48	19.96	20.90	21.34	15.44	16.39	15.87	16.81	17.25
	6H	20.12	20.95	20.57	21.39	21.85	15.92	16.76	16.38	17.20	17.66
	8H	20.33	21.11	20.79	21.55	22.02	16.09	16.86	16.55	17.31	17.77
	12H	20.48	21.18	20.97	21.66	22.13	16.20	16.90	16.69	17.38	17.85
8H	4H	19.55	20.33	20.01	20.77	21.24	15.79	16.57	16.25	17.01	17.48
	6H	20.19	20.83	20.68	21.32	21.80	16.38	17.02	16.87	17.51	17.99
	8H	20.44	21.01	20.95	21.52	22.01	16.60	17.17	17.11	17.68	18.17
	12H	20.64	21.15	21.15	21.64	22.21	16.78	17.29	17.29	17.78	18.34
12H	4H	19.53	20.23	20.02	20.71	21.18	15.83	16.53	16.32	17.01	17.48
	6H	20.17	20.74	20.68	21.25	21.74	16.44	17.02	16.95	17.53	18.01
	8H	20.45	20.96	20.96	21.45	22.02	16.71	17.22	17.22	17.71	18.28