

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: P930836

Luminaire Tested: DFN2DS-SQ2F0-050DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930836
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-SQ2F0-050DS840-RLL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

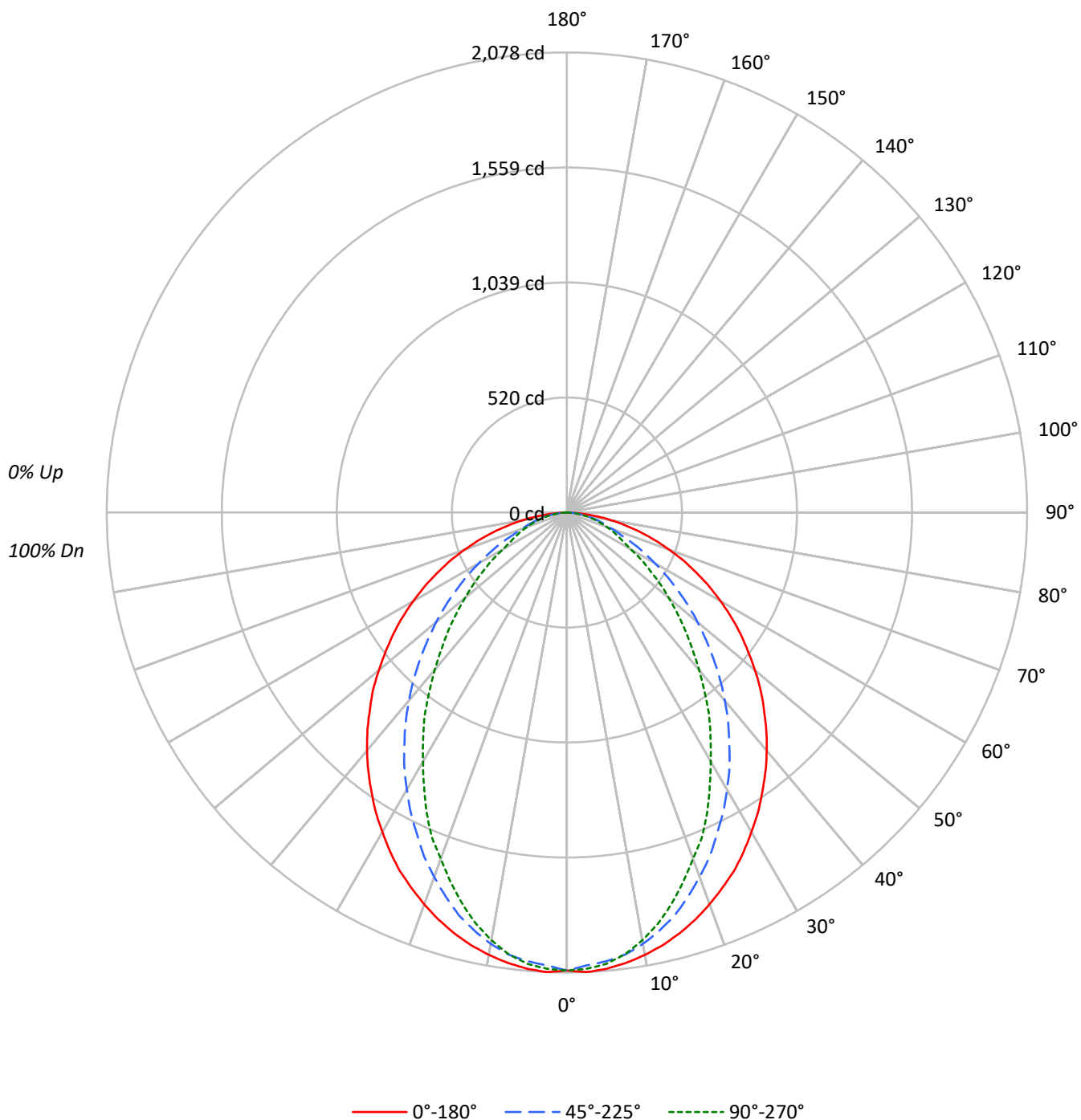
Lumens per Lamp: N/A
Luminaire Lumens: 4254.3 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.21' x L: 2.21' x H: 0')
CIE Type: Direct

Input Watts (W): 47.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 0.064
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°	4549	4549	4549
5°	4566	4491	4516
10°	4531	4418	4381
15°	4479	4287	4164
20°	4407	4100	3894
25°	4333	3888	3633
30°	4231	3669	3298
35°	4131	3432	3005
40°	4030	3186	2665
45°	3912	2911	2357
50°	3791	2632	2056
55°	3667	2332	1766
60°	3524	2017	1465
65°	3360	1695	1335
70°	3166	1396	1227
75°	2926	1272	1145
80°	2583	1137	1043
85°	2031	896	896

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3912 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	16.50	18.02	16.86	18.33	18.65	12.46	13.98	12.82	14.29	14.61
	3H	18.26	19.63	18.64	19.96	20.32	13.72	15.09	14.10	15.42	15.78
	4H	18.93	20.21	19.33	20.56	20.94	14.22	15.51	14.62	15.85	16.23
	6H	19.42	20.60	19.83	20.97	21.36	14.61	15.79	15.02	16.15	16.55
	8H	19.58	20.71	20.01	21.10	21.50	14.73	15.86	15.16	16.25	16.65
	12H	19.69	20.77	20.12	21.15	21.58	14.81	15.89	15.24	16.27	16.70
4H	2H	16.60	17.88	17.00	18.23	18.61	13.15	14.43	13.55	14.78	15.16
	3H	18.53	19.60	18.95	20.00	20.40	14.60	15.66	15.01	16.06	16.46
	4H	19.28	20.24	19.72	20.66	21.10	15.20	16.15	15.63	16.57	17.01
	6H	19.88	20.71	20.33	21.15	21.61	15.68	16.52	16.14	16.96	17.42
	8H	20.09	20.87	20.55	21.31	21.78	15.85	16.62	16.31	17.07	17.53
	12H	20.24	20.94	20.73	21.42	21.89	15.96	16.66	16.45	17.14	17.61
8H	4H	19.31	20.09	19.77	20.53	21.00	15.55	16.33	16.01	16.77	17.24
	6H	19.95	20.59	20.44	21.08	21.56	16.14	16.78	16.63	17.27	17.75
	8H	20.20	20.77	20.71	21.28	21.77	16.36	16.93	16.87	17.44	17.93
	12H	20.40	20.91	20.91	21.40	21.97	16.54	17.05	17.05	17.54	18.10
12H	4H	19.29	19.99	19.78	20.47	20.94	15.59	16.29	16.08	16.77	17.24
	6H	19.93	20.50	20.44	21.01	21.50	16.20	16.78	16.71	17.29	17.77
	8H	20.21	20.72	20.72	21.21	21.78	16.47	16.98	16.98	17.47	18.04