

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: P931074

Luminaire Tested: DFN2DS-SQ4F0-060DS927-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931074
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-SQ4F0-060DS927-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

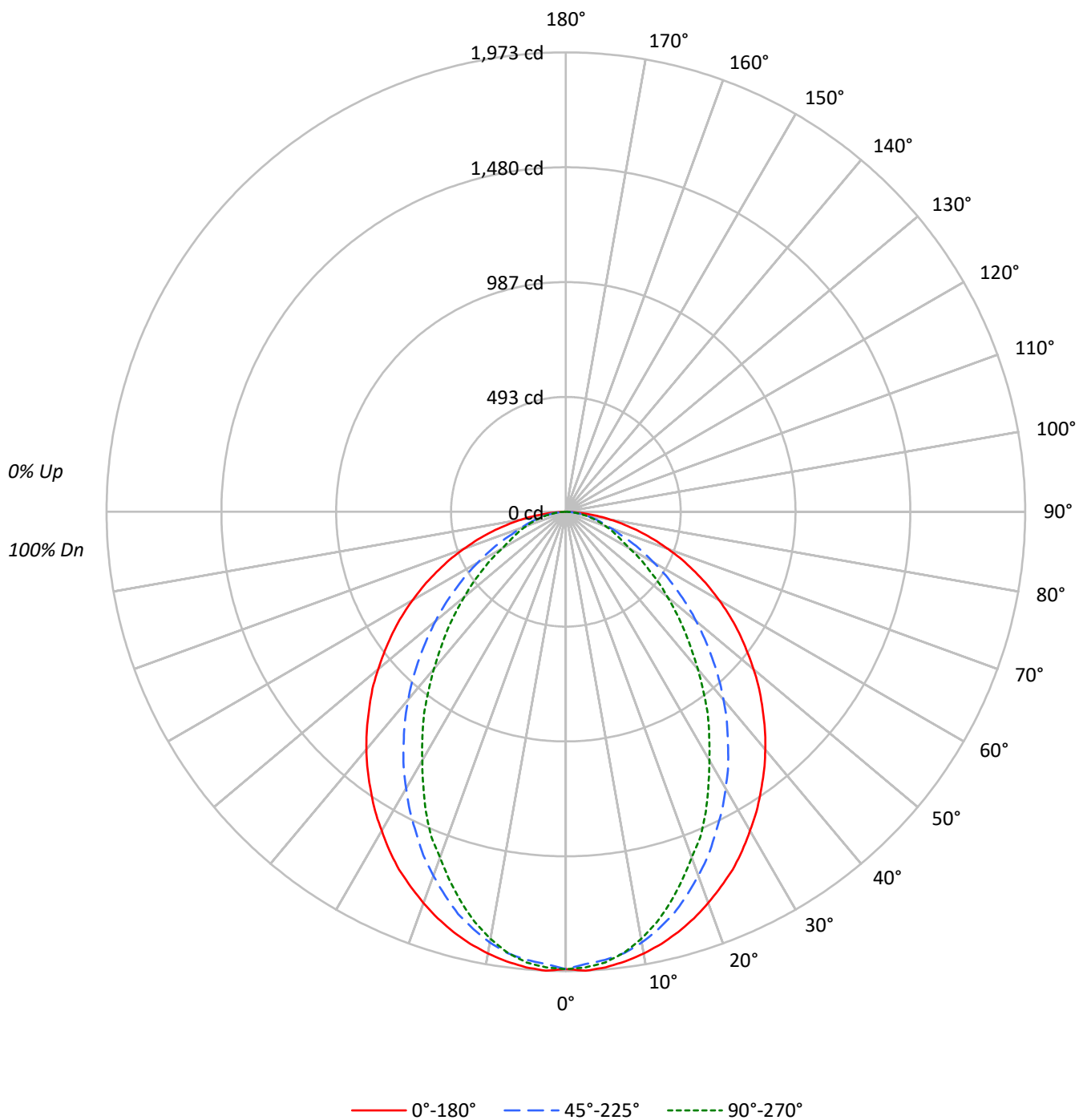
Lumens per Lamp: N/A
Luminaire Lumens: 4039.2 lumens
Efficiency: N/A
Efficacy: 69.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 57.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931074

CATALOG NUMBER: DFN2DS-SQ4F0-060DS927-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°	1378	1378	1378
5°	1383	1361	1368
10°	1373	1339	1327
15°	1357	1299	1261
20°	1335	1242	1180
25°	1313	1178	1101
30°	1282	1112	999
35°	1252	1040	910
40°	1221	965	808
45°	1185	882	714
50°	1149	797	623
55°	1111	707	535
60°	1068	611	444
65°	1018	514	404
70°	959	423	372
75°	887	386	347
80°	782	344	316
85°	614	271	271

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1185 cd/sqm

TEST NUMBER: P931074

CATALOG NUMBER: DFN2DS-SQ4F0-060DS927-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.1	4.6
10°-20°	505.3	12.5
20°-30°	709.4	17.6
30°-40°	773.3	19.1
40°-50°	710.8	17.6
50°-60°	558.2	13.8
60°-70°	363.3	9.0
70°-80°	187.0	4.6
80°-90°	47.7	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°	1398.8	34.6
0°-40°	2172.1	53.8
0°-60°	3441.1	85.2
0°-90°	4039.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4039.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1964	1964	1964	1964	1964	
5°	1964	1955	1932	1948	1943	186
15°	1868	1848	1788	1754	1736	526
25°	1696	1639	1521	1449	1422	780
35°	1461	1370	1214	1102	1063	914
45°	1194	1075	889	762	720	922
55°	908	770	578	471	437	812
65°	613	469	309	249	244	608
75°	327	202	142	130	128	346
85°	76	39	34	34	34	92
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1964.0	1964.0	1964.0	1964.0	1964.0
2.5°	1972.9	1964.0	1944.4	1962.3	1958.7
5°	1964.0	1955.1	1931.9	1948.0	1942.7
7.5°	1948.0	1937.4	1912.5	1919.5	1910.6
10°	1926.6	1914.2	1878.8	1873.3	1862.7
12.5°	1900.1	1884.0	1835.9	1825.4	1805.8
15°	1868.0	1848.4	1788.0	1754.3	1736.5
17.5°	1830.7	1802.2	1727.5	1688.5	1660.0
20°	1788.0	1752.4	1663.6	1619.2	1580.0
22.5°	1741.8	1700.9	1597.8	1537.4	1510.8
25°	1695.7	1638.7	1521.4	1448.6	1421.9
27.5°	1640.6	1580.0	1450.3	1366.8	1325.9
30°	1581.9	1514.2	1372.1	1281.5	1233.5
32.5°	1525.0	1443.2	1297.6	1190.9	1146.3
35°	1461.1	1370.4	1214.1	1102.0	1062.8
37.5°	1398.8	1300.9	1135.8	1013.0	968.7
40°	1333.0	1226.5	1053.9	927.7	881.6
42.5°	1265.5	1151.8	972.3	840.6	796.4
45°	1194.4	1075.2	888.8	762.4	719.8
47.5°	1126.9	1000.8	808.8	682.5	643.4
50°	1052.3	926.1	730.5	607.8	570.6
52.5°	979.2	845.9	655.9	538.6	504.8
55°	908.2	769.6	577.6	471.1	437.3
57.5°	835.4	693.2	508.4	408.8	380.3
60°	760.7	618.6	435.4	344.9	316.4
62.5°	687.9	545.8	373.2	288.0	273.8
65°	613.2	469.2	309.3	248.9	243.5
67.5°	542.1	398.1	248.9	218.6	213.3
70°	467.4	328.8	206.1	188.4	181.2
72.5°	396.4	264.8	172.3	158.2	154.6
75°	327.0	202.5	142.2	129.7	128.1
77.5°	257.8	143.9	112.0	104.9	101.3
80°	193.6	103.1	85.2	78.2	78.2
82.5°	135.0	69.4	58.6	55.0	55.0
85°	76.3	39.0	33.7	33.7	33.7
87.5°	28.5	14.2	14.2	12.4	12.4
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	12.35	13.87	12.71	14.18	14.50	8.31	9.83	8.67	10.14	10.46
	3H	14.11	15.48	14.49	15.81	16.17	9.57	10.94	9.95	11.27	11.63
	4H	14.78	16.06	15.18	16.41	16.79	10.08	11.36	10.48	11.71	12.08
	6H	15.27	16.45	15.68	16.82	17.21	10.46	11.64	10.87	12.01	12.40
	8H	15.43	16.56	15.86	16.95	17.35	10.58	11.71	11.01	12.10	12.50
	12H	15.54	16.62	15.97	17.00	17.43	10.66	11.74	11.09	12.12	12.55
4H	2H	12.45	13.73	12.85	14.08	14.46	9.00	10.29	9.40	10.63	11.01
	3H	14.39	15.45	14.80	15.85	16.25	10.45	11.51	10.86	11.91	12.31
	4H	15.14	16.09	15.57	16.51	16.95	11.05	12.00	11.48	12.42	12.86
	6H	15.73	16.56	16.18	17.00	17.46	11.54	12.37	11.99	12.81	13.27
	8H	15.94	16.72	16.40	17.16	17.63	11.70	12.47	12.16	12.92	13.39
	12H	16.09	16.79	16.58	17.27	17.74	11.81	12.51	12.30	12.99	13.46
8H	4H	15.16	15.94	15.62	16.38	16.85	11.40	12.18	11.86	12.62	13.09
	6H	15.80	16.44	16.29	16.93	17.41	11.99	12.63	12.48	13.12	13.60
	8H	16.05	16.62	16.56	17.13	17.62	12.21	12.78	12.72	13.29	13.78
	12H	16.25	16.76	16.76	17.25	17.82	12.39	12.90	12.90	13.39	13.95
12H	4H	15.14	15.84	15.63	16.32	16.79	11.44	12.14	11.93	12.62	13.09
	6H	15.78	16.36	16.29	16.87	17.35	12.05	12.63	12.56	13.14	13.63
	8H	16.06	16.57	16.57	17.06	17.63	12.32	12.83	12.83	13.33	13.89

END OF REPORT