

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: P931132

Luminaire Tested: DFN2DS-SQ4F0-090DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931132
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-SQ4F0-090DS935-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

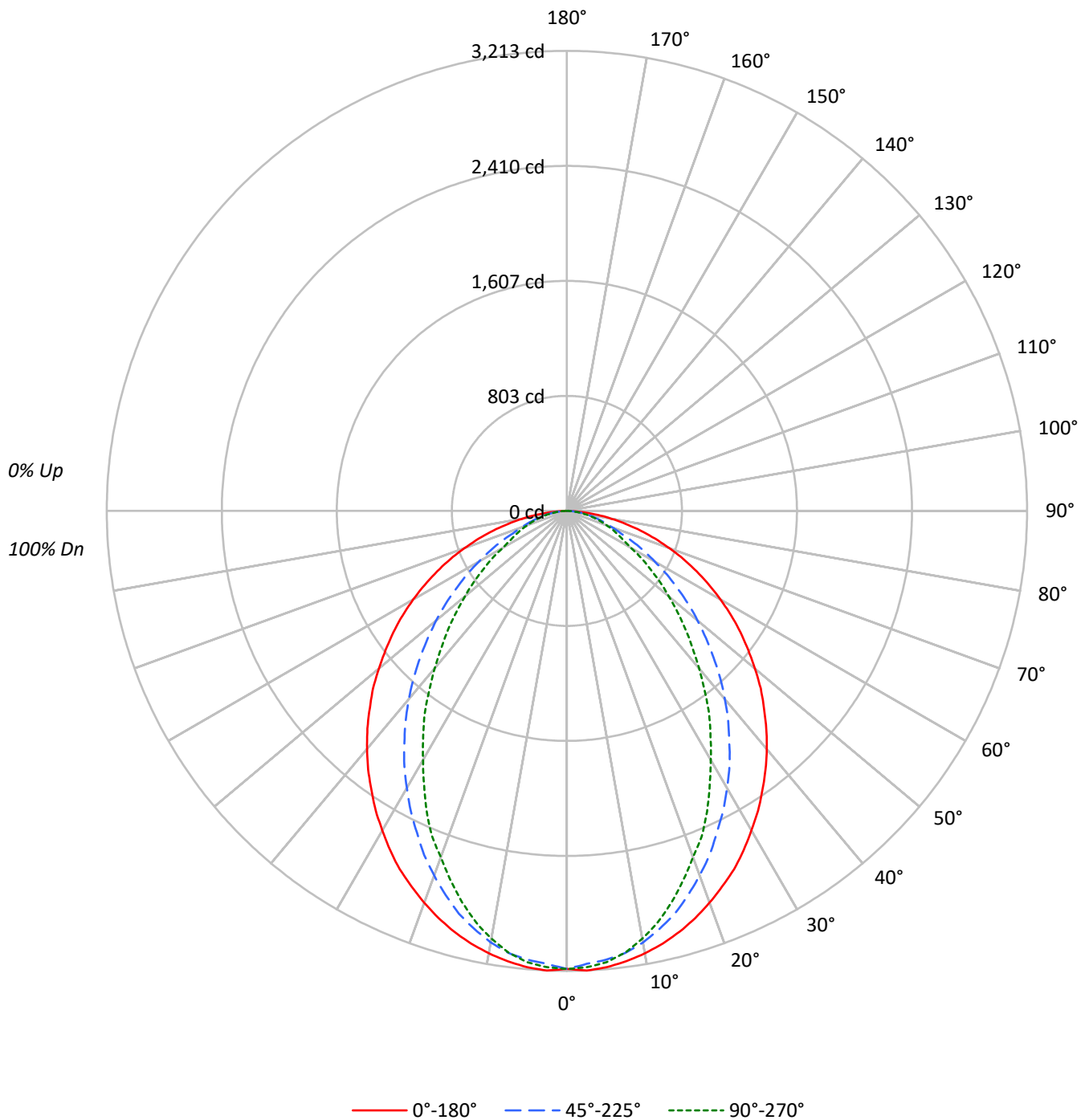
Lumens per Lamp: N/A
Luminaire Lumens: 6579.0 lumens
Efficiency: N/A
Efficacy: 72.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 90.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.983
Total Harmonic Distortion (THDi): 0.073
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931132

CATALOG NUMBER: DFN2DS-SQ4F0-090DS935-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P931132

CATALOG NUMBER: DFN2DS-SQ4F0-090DS935-RLL

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°	2245	2245	2245
5°	2253	2216	2229
10°	2236	2180	2162
15°	2210	2116	2055
20°	2175	2023	1922
25°	2138	1919	1793
30°	2088	1811	1628
35°	2039	1694	1483
40°	1989	1572	1315
45°	1931	1436	1163
50°	1871	1299	1015
55°	1810	1151	871
60°	1739	995	723
65°	1658	836	658
70°	1562	689	606
75°	1444	628	566
80°	1274	561	515
85°	1002	443	443

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1931 cd/sqm

TEST NUMBER: P931132

CATALOG NUMBER: DFN2DS-SQ4F0-090DS935-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	299.8	4.6
10°-20°	823.0	12.5
20°-30°	1155.5	17.6
30°-40°	1259.6	19.1
40°-50°	1157.7	17.6
50°-60°	909.2	13.8
60°-70°	591.8	9.0
70°-80°	304.6	4.6
80°-90°	77.8	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°	2278.3	34.6
0°-40°	3537.9	53.8
0°-60°	5604.8	85.2
0°-90°	6579.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6579.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3199	3199	3199	3199	3199	
5°	3199	3184	3147	3173	3164	303
15°	3043	3011	2912	2857	2828	857
25°	2762	2669	2478	2360	2316	1270
35°	2380	2232	1977	1795	1731	1489
45°	1946	1751	1448	1242	1172	1502
55°	1479	1253	941	767	712	1322
65°	999	764	504	405	396	990
75°	533	330	232	211	209	563
85°	124	64	55	55	55	149
90°	0	0	0	0	0	

TEST NUMBER: P931132

CATALOG NUMBER: DFN2DS-SQ4F0-090DS935-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3198.9	3198.9	3198.9	3198.9	3198.9
2.5°	3213.4	3198.9	3167.0	3196.2	3190.3
5°	3198.9	3184.5	3146.7	3172.8	3164.2
7.5°	3172.8	3155.6	3115.1	3126.4	3112.0
10°	3138.1	3117.8	3060.1	3051.2	3034.0
12.5°	3094.8	3068.7	2990.4	2973.2	2941.2
15°	3042.6	3010.7	2912.4	2857.4	2828.5
17.5°	2981.8	2935.4	2813.7	2750.2	2703.8
20°	2912.4	2854.3	2709.6	2637.4	2573.6
22.5°	2837.1	2770.5	2602.4	2504.1	2460.9
25°	2761.9	2669.1	2478.1	2359.5	2315.9
27.5°	2672.2	2573.6	2362.2	2226.2	2159.5
30°	2576.6	2466.4	2234.8	2087.4	2009.0
32.5°	2483.9	2350.6	2113.4	1939.6	1867.1
35°	2379.8	2232.0	1977.4	1795.0	1731.1
37.5°	2278.4	2119.0	1849.9	1650.0	1577.8
40°	2171.2	1997.7	1716.6	1511.2	1435.9
42.5°	2061.2	1876.1	1583.6	1369.3	1297.1
45°	1945.5	1751.4	1447.6	1241.8	1172.4
47.5°	1835.5	1630.0	1317.3	1111.6	1048.0
50°	1713.9	1508.4	1189.9	989.9	929.4
52.5°	1595.0	1377.9	1068.3	877.2	822.2
55°	1479.2	1253.4	940.8	767.3	712.3
57.5°	1360.7	1129.1	828.1	665.9	619.5
60°	1239.0	1007.4	709.2	561.8	515.4
62.5°	1120.5	888.9	607.8	469.0	446.0
65°	998.8	764.2	503.7	405.4	396.5
67.5°	883.0	648.4	405.4	356.0	347.4
70°	761.4	535.7	335.7	306.8	295.2
72.5°	645.6	431.2	280.7	257.7	251.9
75°	532.6	329.9	231.6	211.3	208.6
77.5°	419.9	234.4	182.4	170.8	164.9
80°	315.4	168.0	138.8	127.5	127.5
82.5°	219.9	113.0	95.5	89.7	89.7
85°	124.4	63.6	55.0	55.0	55.0
87.5°	46.4	23.0	23.0	20.3	20.3
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931132

CATALOG NUMBER: DFN2DS-SQ4F0-090DS935-RLL

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	14.04	15.57	14.41	15.88	16.19	10.00	11.53	10.37	11.84	12.15
	3H	15.81	17.17	16.19	17.50	17.86	11.27	12.63	11.65	12.96	13.32
	4H	16.48	17.76	16.88	18.10	18.48	11.77	13.05	12.17	13.40	13.78
	6H	16.96	18.15	17.38	18.51	18.91	12.15	13.34	12.56	13.70	14.09
	8H	17.13	18.26	17.56	18.65	19.05	12.28	13.40	12.70	13.79	14.19
	12H	17.23	18.31	17.66	18.69	19.12	12.36	13.44	12.79	13.82	14.25
4H	2H	14.15	15.43	14.55	15.78	16.16	10.70	11.98	11.10	12.33	12.71
	3H	16.08	17.14	16.49	17.54	17.94	12.14	13.21	12.55	13.61	14.01
	4H	16.83	17.79	17.26	18.20	18.64	12.74	13.70	13.18	14.11	14.55
	6H	17.42	18.25	17.88	18.70	19.16	13.23	14.06	13.69	14.51	14.97
	8H	17.64	18.41	18.10	18.86	19.33	13.39	14.17	13.86	14.61	15.08
	12H	17.79	18.48	18.27	18.96	19.43	13.51	14.20	13.99	14.68	15.15
8H	4H	16.85	17.63	17.32	18.08	18.54	13.10	13.87	13.56	14.32	14.79
	6H	17.49	18.13	17.99	18.63	19.10	13.68	14.33	14.18	14.82	15.29
	8H	17.74	18.32	18.26	18.83	19.32	13.90	14.48	14.42	14.99	15.48
	12H	17.95	18.46	18.46	18.95	19.51	14.08	14.59	14.59	15.09	15.65
12H	4H	16.84	17.53	17.32	18.01	18.48	13.14	13.83	13.62	14.31	14.78
	6H	17.47	18.05	17.99	18.56	19.05	13.75	14.32	14.26	14.83	15.32
	8H	17.76	18.27	18.27	18.76	19.32	14.02	14.53	14.53	15.02	15.59