

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: P931204

Luminaire Tested: DFN2DS-SQ4F0-140DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931204
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-SQ4F0-140DS935-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

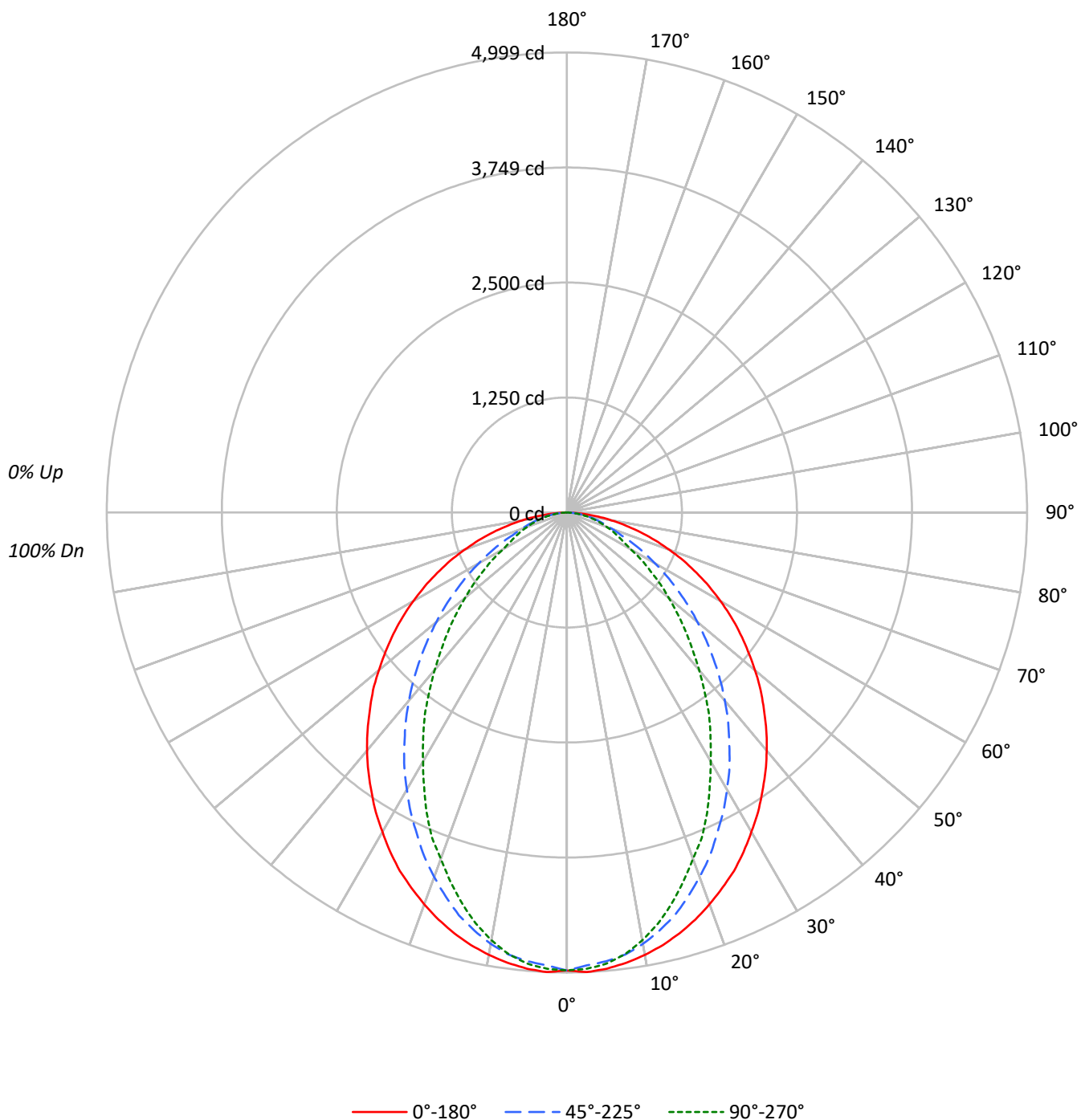
Lumens per Lamp: N/A
Luminaire Lumens: 10234.0 lumens
Efficiency: N/A
Efficacy: 67.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 151.7
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: P931204

CATALOG NUMBER: DFN2DS-SQ4F0-140DS935-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P931204

CATALOG NUMBER: DFN2DS-SQ4F0-140DS935-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°	3492	3492	3492
5°	3505	3448	3467
10°	3478	3392	3363
15°	3438	3291	3196
20°	3383	3147	2989
25°	3326	2984	2789
30°	3247	2817	2532
35°	3171	2635	2307
40°	3094	2446	2046
45°	3003	2235	1810
50°	2910	2020	1578
55°	2815	1790	1355
60°	2705	1548	1125
65°	2580	1301	1024
70°	2430	1071	942
75°	2246	977	879
80°	1983	872	801
85°	1558	688	688

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3003 cd/sqm

TEST NUMBER: P931204

CATALOG NUMBER: DFN2DS-SQ4F0-140DS935-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	466.4	4.6
10°-20°	1280.3	12.5
20°-30°	1797.5	17.6
30°-40°	1959.3	19.1
40°-50°	1800.8	17.6
50°-60°	1414.3	13.8
60°-70°	920.6	9.0
70°-80°	473.9	4.6
80°-90°	121.0	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°	3544.1	34.6
0°-40°	5503.4	53.8
0°-60°	8718.6	85.2
0°-90°	10234.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10234.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4976	4976	4976	4976	4976	
5°	4976	4954	4895	4936	4922	472
15°	4733	4683	4530	4445	4400	1334
25°	4296	4152	3855	3670	3602	1976
35°	3702	3472	3076	2792	2693	2317
45°	3026	2724	2252	1932	1824	2337
55°	2301	1950	1464	1194	1108	2056
65°	1554	1189	784	631	617	1540
75°	828	513	360	329	324	876
85°	194	99	86	86	86	232
90°	0	0	0	0	0	

TEST NUMBER: P931204

CATALOG NUMBER: DFN2DS-SQ4F0-140DS935-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4976.1	4976.1	4976.1	4976.1	4976.1
2.5°	4998.6	4976.1	4926.4	4971.8	4962.7
5°	4976.1	4953.7	4894.9	4935.5	4922.1
7.5°	4935.5	4908.7	4845.7	4863.4	4840.9
10°	4881.5	4850.0	4760.2	4746.3	4719.5
12.5°	4814.1	4773.5	4651.7	4624.9	4575.3
15°	4732.9	4683.2	4530.3	4444.8	4399.9
17.5°	4638.3	4566.2	4377.0	4278.1	4205.9
20°	4530.3	4440.0	4215.0	4102.7	4003.4
22.5°	4413.3	4309.6	4048.3	3895.4	3828.0
25°	4296.2	4151.9	3854.8	3670.3	3602.5
27.5°	4156.7	4003.4	3674.6	3463.0	3359.3
30°	4008.1	3836.6	3476.4	3247.0	3125.2
32.5°	3863.8	3656.5	3287.6	3017.2	2904.5
35°	3701.9	3472.1	3076.0	2792.2	2692.7
37.5°	3544.2	3296.2	2877.6	2566.7	2454.4
40°	3377.5	3107.5	2670.3	2350.7	2233.7
42.5°	3206.4	2918.3	2463.5	2130.0	2017.6
45°	3026.3	2724.3	2251.8	1931.6	1823.7
47.5°	2855.2	2535.6	2049.2	1729.1	1630.2
50°	2666.0	2346.4	1850.9	1539.9	1445.7
52.5°	2481.1	2143.3	1661.7	1364.6	1279.0
55°	2301.0	1949.8	1463.5	1193.5	1107.9
57.5°	2116.5	1756.3	1288.1	1035.9	963.7
60°	1927.3	1567.1	1103.2	873.8	801.7
62.5°	1743.0	1382.7	945.6	729.5	693.8
65°	1553.8	1188.7	783.5	630.6	616.8
67.5°	1373.6	1008.6	630.6	553.8	540.3
70°	1184.4	833.3	522.2	477.3	459.2
72.5°	1004.3	670.8	436.7	400.8	391.8
75°	828.4	513.2	360.3	328.7	324.4
77.5°	653.2	364.6	283.8	265.7	256.5
80°	490.7	261.4	215.9	198.3	198.3
82.5°	342.1	175.8	148.6	139.5	139.5
85°	193.5	98.9	85.5	85.5	85.5
87.5°	72.2	35.9	35.9	31.6	31.6
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931204

CATALOG NUMBER: DFN2DS-SQ4F0-140DS935-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	15.58	17.10	15.94	17.41	17.73	11.54	13.06	11.90	13.38	13.69
	3H	17.34	18.71	17.72	19.04	19.40	12.80	14.17	13.18	14.50	14.86
	4H	18.01	19.29	18.41	19.64	20.02	13.31	14.59	13.71	14.94	15.31
	6H	18.50	19.68	18.91	20.05	20.44	13.69	14.87	14.10	15.24	15.63
	8H	18.66	19.79	19.09	20.18	20.58	13.81	14.94	14.24	15.33	15.73
	12H	18.77	19.85	19.20	20.23	20.66	13.89	14.97	14.32	15.35	15.78
4H	2H	15.68	16.96	16.08	17.31	17.69	12.24	13.52	12.63	13.86	14.24
	3H	17.62	18.68	18.03	19.08	19.48	13.68	14.74	14.09	15.14	15.54
	4H	18.37	19.32	18.80	19.74	20.18	14.28	15.23	14.71	15.65	16.09
	6H	18.96	19.79	19.41	20.23	20.69	14.77	15.60	15.22	16.04	16.50
	8H	19.17	19.95	19.64	20.39	20.86	14.93	15.71	15.39	16.15	16.62
	12H	19.33	20.02	19.81	20.50	20.97	15.04	15.74	15.53	16.22	16.69
8H	4H	18.39	19.17	18.85	19.61	20.08	14.63	15.41	15.09	15.85	16.32
	6H	19.03	19.67	19.52	20.16	20.64	15.22	15.86	15.71	16.35	16.83
	8H	19.28	19.85	19.79	20.36	20.85	15.44	16.02	15.95	16.53	17.01
	12H	19.48	19.99	19.99	20.48	21.05	15.62	16.13	16.13	16.62	17.18
12H	4H	18.37	19.07	18.86	19.55	20.02	14.67	15.37	15.16	15.85	16.32
	6H	19.01	19.59	19.52	20.10	20.58	15.28	15.86	15.80	16.37	16.86
	8H	19.29	19.80	19.80	20.29	20.86	15.55	16.06	16.06	16.56	17.12