

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: P931044

Luminaire Tested: DFN2DS-SQ3F0-110DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931044
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-SQ3F0-110DS940-RLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

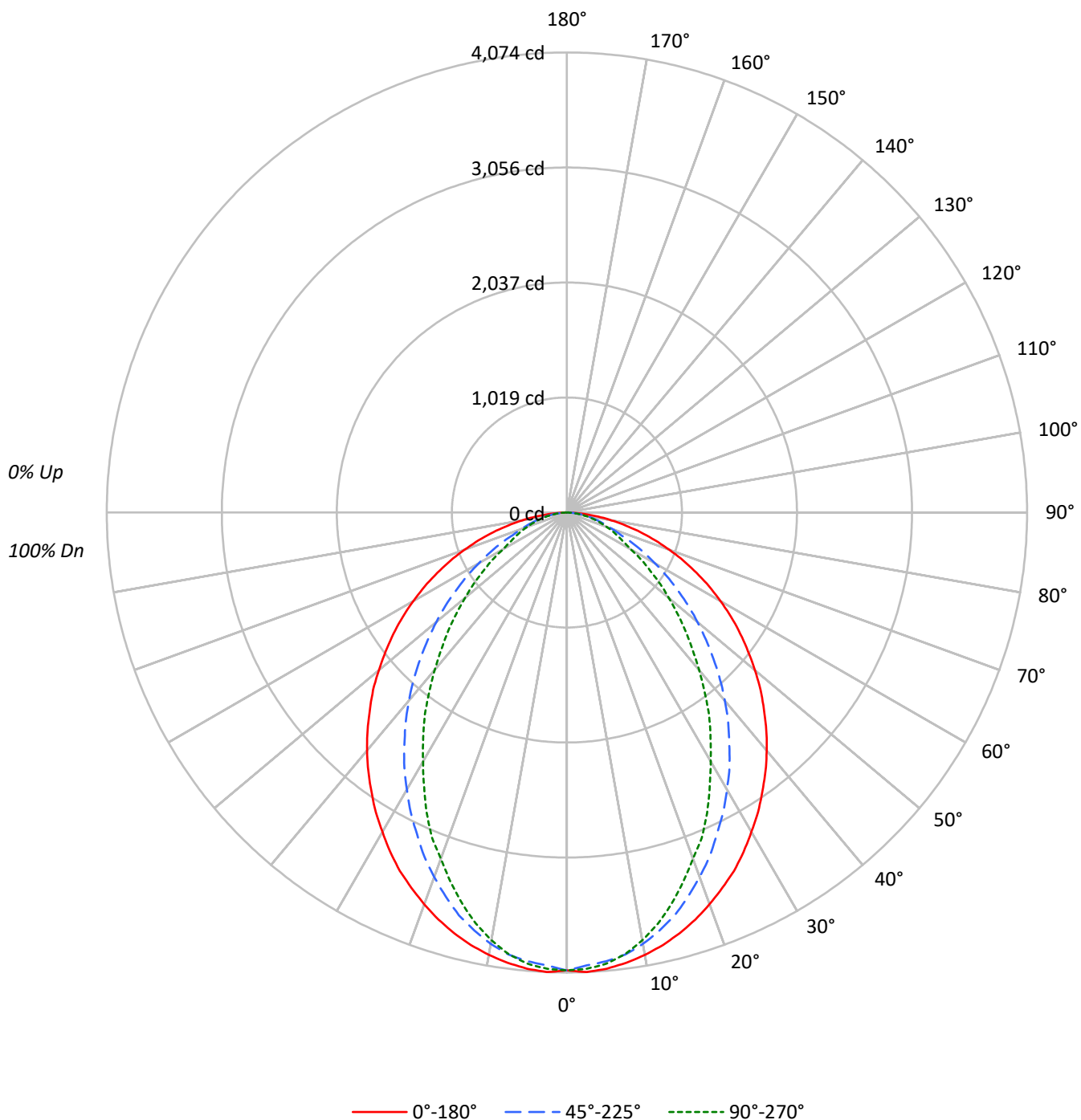
Lumens per Lamp: N/A
Luminaire Lumens: 8340.2 lumens
Efficiency: N/A
Efficacy: 70.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 117.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
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°	4647	4647	4647
5°	4664	4588	4614
10°	4629	4513	4475
15°	4575	4380	4253
20°	4502	4188	3978
25°	4426	3972	3712
30°	4322	3748	3370
35°	4220	3506	3070
40°	4117	3255	2723
45°	3996	2974	2408
50°	3873	2689	2100
55°	3746	2382	1804
60°	3599	2060	1497
65°	3433	1731	1363
70°	3234	1426	1254
75°	2989	1300	1171
80°	2639	1161	1066
85°	2073	916	916

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3996 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	380.1	4.6
10°-20°	1043.4	12.5
20°-30°	1464.8	17.6
30°-40°	1596.8	19.1
40°-50°	1467.6	17.6
50°-60°	1152.6	13.8
60°-70°	750.2	9.0
70°-80°	386.2	4.6
80°-90°	98.6	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°	2888.3	34.6
0°-40°	4485.0	53.8
0°-60°	7105.2	85.2
0°-90°	8340.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8340.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4055	4055	4055	4055	4055	
5°	4055	4037	3989	4022	4011	385
15°	3857	3817	3692	3622	3586	1087
25°	3501	3384	3141	2991	2936	1610
35°	3017	2830	2507	2276	2194	1888
45°	2466	2220	1835	1574	1486	1905
55°	1875	1589	1193	973	903	1676
65°	1266	969	639	514	503	1255
75°	675	418	294	268	264	714
85°	158	81	70	70	70	189
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4055.3	4055.3	4055.3	4055.3	4055.3
2.5°	4073.6	4055.3	4014.8	4051.8	4044.4
5°	4055.3	4037.0	3989.1	4022.2	4011.3
7.5°	4022.2	4000.4	3949.0	3963.4	3945.0
10°	3978.2	3952.5	3879.3	3868.0	3846.2
12.5°	3923.3	3890.2	3790.9	3769.1	3728.6
15°	3857.1	3816.6	3692.0	3622.3	3585.7
17.5°	3780.0	3721.2	3567.0	3486.4	3427.6
20°	3692.0	3618.4	3435.0	3343.5	3262.5
22.5°	3596.6	3512.1	3299.2	3174.5	3119.6
25°	3501.2	3383.6	3141.4	2991.1	2935.8
27.5°	3387.5	3262.5	2994.6	2822.1	2737.6
30°	3266.4	3126.6	2833.1	2646.1	2546.8
32.5°	3148.8	2979.8	2679.2	2458.9	2367.0
35°	3016.8	2829.5	2506.8	2275.5	2194.5
37.5°	2888.4	2686.3	2345.2	2091.7	2000.2
40°	2752.4	2532.5	2176.2	1915.7	1820.3
42.5°	2613.0	2378.3	2007.6	1735.8	1644.3
45°	2466.3	2220.2	1835.1	1574.2	1486.3
47.5°	2326.9	2066.4	1670.0	1409.1	1328.5
50°	2172.6	1912.2	1508.5	1255.0	1178.2
52.5°	2022.0	1746.7	1354.2	1112.1	1042.3
55°	1875.2	1589.0	1192.6	972.6	903.0
57.5°	1724.9	1431.3	1049.7	844.2	785.3
60°	1570.7	1277.2	899.0	712.2	653.4
62.5°	1420.4	1126.9	770.6	594.6	565.3
65°	1266.2	968.7	638.6	514.0	502.6
67.5°	1119.5	822.0	514.0	451.3	440.4
70°	965.2	679.1	425.6	389.0	374.2
72.5°	818.4	546.7	355.9	326.7	319.2
75°	675.2	418.2	293.6	267.9	264.4
77.5°	532.3	297.1	231.3	216.5	209.1
80°	399.9	213.0	176.0	161.6	161.6
82.5°	278.8	143.3	121.1	113.7	113.7
85°	157.7	80.6	69.7	69.7	69.7
87.5°	58.8	29.2	29.2	25.7	25.7
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	16.57	18.09	16.94	18.41	18.72	12.53	14.05	12.90	14.37	14.68
	3H	18.34	19.70	18.71	20.03	20.39	13.80	15.16	14.18	15.49	15.85
	4H	19.00	20.28	19.40	20.63	21.01	14.30	15.58	14.70	15.93	16.31
	6H	19.49	20.68	19.90	21.04	21.43	14.68	15.86	15.09	16.23	16.62
	8H	19.66	20.78	20.08	21.17	21.57	14.80	15.93	15.23	16.32	16.72
	12H	19.76	20.84	20.19	21.22	21.65	14.89	15.96	15.32	16.35	16.78
4H	2H	16.68	17.96	17.08	18.31	18.68	13.23	14.51	13.63	14.86	15.24
	3H	18.61	19.67	19.02	20.07	20.47	14.67	15.73	15.08	16.13	16.53
	4H	19.36	20.32	19.79	20.73	21.17	15.27	16.23	15.70	16.64	17.08
	6H	19.95	20.78	20.41	21.22	21.68	15.76	16.59	16.22	17.03	17.49
	8H	20.16	20.94	20.63	21.39	21.85	15.92	16.70	16.38	17.14	17.61
	12H	20.32	21.01	20.80	21.49	21.96	16.04	16.73	16.52	17.21	17.68
8H	4H	19.38	20.16	19.85	20.60	21.07	15.62	16.40	16.09	16.85	17.31
	6H	20.02	20.66	20.52	21.15	21.63	16.21	16.85	16.71	17.34	17.82
	8H	20.27	20.85	20.78	21.36	21.85	16.43	17.01	16.95	17.52	18.01
	12H	20.47	20.98	20.98	21.48	22.04	16.61	17.12	17.12	17.61	18.18
12H	4H	19.37	20.06	19.85	20.54	21.01	15.67	16.36	16.15	16.84	17.31
	6H	20.00	20.58	20.51	21.09	21.58	16.27	16.85	16.79	17.36	17.85
	8H	20.29	20.80	20.80	21.29	21.85	16.55	17.06	17.06	17.55	18.11