

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: P931035

Luminaire Tested: DFN2DS-SQ3F0-110DS850-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931035
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ3F0-110DS850-FLL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

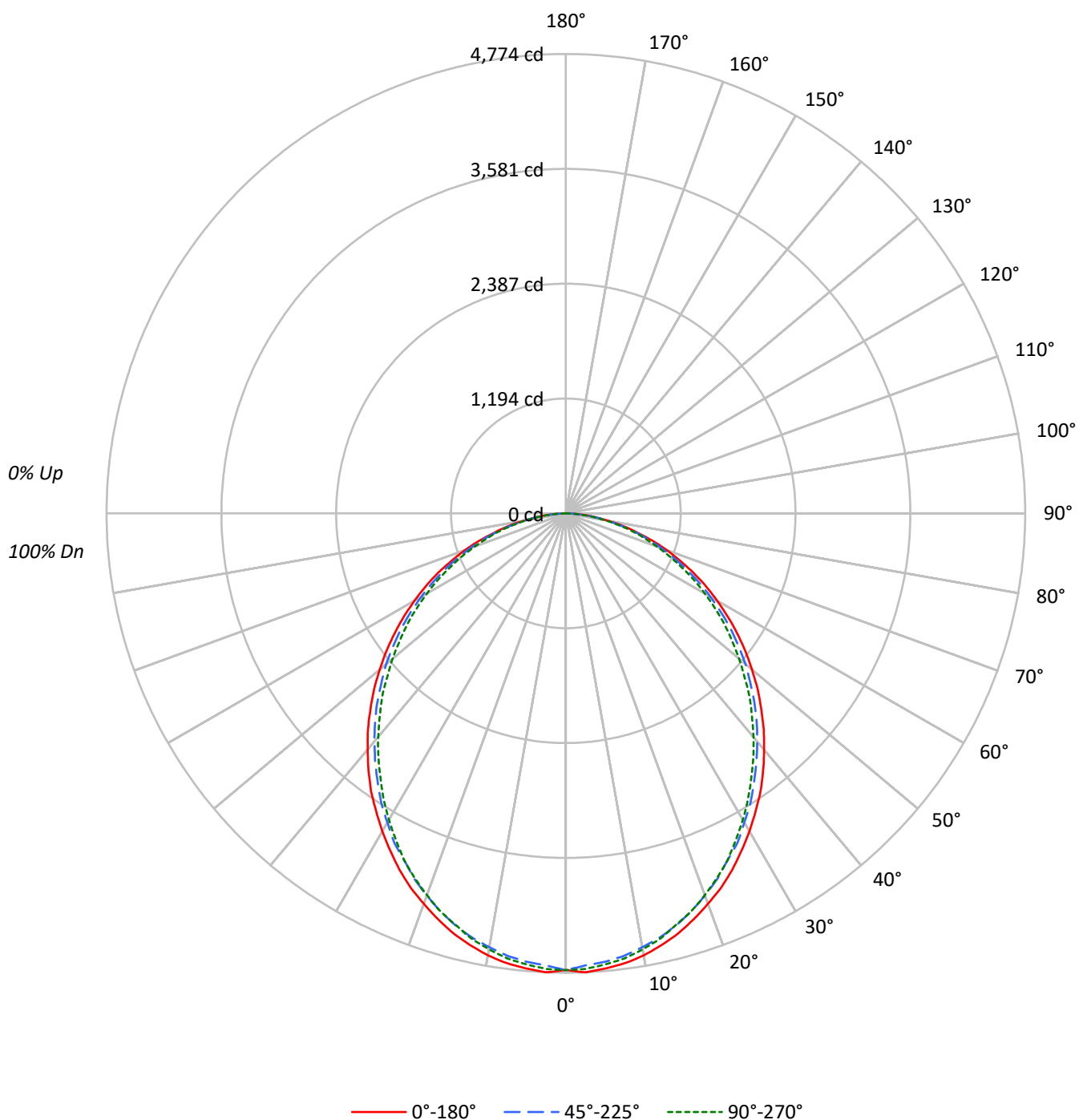
Lumens per Lamp: N/A
Luminaire Lumens: 12077.0 lumens
Efficiency: N/A
Efficacy: 102.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5439	5439	5439
5°	5460	5381	5413
10°	5428	5327	5353
15°	5360	5257	5252
20°	5265	5154	5148
25°	5170	5026	5026
30°	5049	4910	4867
35°	4935	4769	4699
40°	4793	4628	4540
45°	4653	4489	4379
50°	4499	4344	4190
55°	4341	4176	4021
60°	4162	3975	3829
65°	3973	3775	3602
70°	3731	3532	3365
75°	3393	3252	3173
80°	3013	2920	2771
85°	2458	2343	2101

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4653 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	446.8	3.7
10°-20°	1257.0	10.4
20°-30°	1847.3	15.3
30°-40°	2145.5	17.8
40°-50°	2142.9	17.7
50°-60°	1868.5	15.5
60°-70°	1381.3	11.4
70°-80°	781.5	6.5
80°-90°	206.3	1.7
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°	3551.1	29.4
0°-40°	5696.6	47.2
0°-60°	9708.0	80.4
0°-90°	12077.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12077.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4747	4747	4747	4747	4747	
5°	4747	4729	4678	4715	4706	451
15°	4519	4491	4432	4450	4428	1273
25°	4090	4053	3976	3984	3976	1882
35°	3528	3483	3410	3382	3359	2203
45°	2871	2839	2770	2721	2702	2216
55°	2173	2145	2091	2036	2013	1943
65°	1465	1438	1392	1351	1328	1449
75°	766	758	735	708	717	818
85°	187	182	178	164	160	220
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4746.7	4746.7	4746.7	4746.7	4746.7
2.5°	4774.2	4751.5	4701.2	4746.7	4738.0
5°	4746.7	4728.8	4678.4	4714.7	4706.0
7.5°	4714.7	4687.6	4637.3	4674.1	4664.9
10°	4664.9	4632.8	4578.2	4614.4	4600.9
12.5°	4596.1	4569.0	4514.3	4537.0	4527.8
15°	4518.6	4491.4	4431.9	4450.3	4427.6
17.5°	4422.7	4395.6	4336.1	4358.8	4336.1
20°	4317.7	4290.5	4226.6	4240.2	4222.3
22.5°	4213.1	4171.8	4112.3	4112.3	4103.1
25°	4089.5	4053.3	3975.8	3984.5	3975.8
27.5°	3952.5	3920.5	3861.4	3847.9	3825.2
30°	3816.0	3779.1	3710.8	3697.3	3678.9
32.5°	3669.7	3642.6	3569.4	3541.8	3523.4
35°	3528.3	3482.8	3409.6	3382.0	3359.3
37.5°	3368.5	3327.3	3254.2	3222.2	3199.5
40°	3204.3	3167.5	3094.4	3053.7	3035.3
42.5°	3044.5	3007.7	2935.1	2889.1	2862.0
45°	2871.2	2839.2	2770.4	2720.6	2702.2
47.5°	2702.2	2670.3	2597.1	2546.7	2519.5
50°	2524.0	2501.2	2437.2	2373.4	2350.6
52.5°	2350.6	2318.6	2259.6	2209.1	2177.2
55°	2172.9	2145.2	2090.6	2035.8	2013.1
57.5°	1994.6	1971.9	1912.4	1857.6	1839.2
60°	1816.4	1798.6	1734.6	1684.2	1670.7
62.5°	1643.1	1611.2	1565.6	1520.1	1501.7
65°	1465.3	1437.7	1392.2	1351.1	1328.4
67.5°	1282.8	1259.6	1218.9	1187.0	1168.6
70°	1113.8	1095.4	1054.2	1022.3	1004.3
72.5°	940.4	922.0	899.3	867.3	853.7
75°	766.5	757.9	734.6	707.5	716.7
77.5°	611.6	593.2	584.0	570.5	556.9
80°	456.7	451.8	442.6	429.1	419.9
82.5°	310.4	310.4	306.1	287.7	287.7
85°	187.0	182.5	178.2	164.1	159.8
87.5°	82.3	73.1	63.9	50.3	45.5
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	17.17	18.78	17.53	19.09	19.41	16.72	18.33	17.09	18.65	18.96
	3H	18.92	20.37	19.29	20.70	21.06	18.43	19.88	18.80	20.21	20.57
	4H	19.56	20.93	19.96	21.28	21.66	19.07	20.44	19.47	20.79	21.16
	6H	20.03	21.30	20.44	21.67	22.06	19.53	20.80	19.94	21.16	21.55
	8H	20.18	21.39	20.60	21.77	22.17	19.67	20.88	20.10	21.27	21.67
	12H	20.27	21.43	20.69	21.81	22.24	19.75	20.91	20.18	21.30	21.72
4H	2H	17.73	19.10	18.13	19.44	19.82	17.37	18.74	17.77	19.09	19.47
	3H	19.70	20.85	20.11	21.25	21.65	19.30	20.44	19.71	20.84	21.24
	4H	20.48	21.51	20.91	21.93	22.36	20.05	21.09	20.49	21.50	21.94
	6H	21.08	21.98	21.53	22.42	22.88	20.64	21.55	21.10	21.99	22.44
	8H	21.26	22.11	21.73	22.55	23.02	20.83	21.67	21.29	22.12	22.58
	12H	21.40	22.16	21.88	22.63	23.10	20.94	21.70	21.42	22.18	22.65
8H	4H	20.75	21.60	21.21	22.04	22.51	20.38	21.22	20.84	21.67	22.13
	6H	21.47	22.17	21.96	22.66	23.13	21.08	21.79	21.58	22.28	22.75
	8H	21.73	22.36	22.24	22.86	23.35	21.33	21.96	21.84	22.47	22.96
	12H	21.93	22.48	22.43	22.97	23.53	21.51	22.07	22.02	22.56	23.12
12H	4H	20.78	21.54	21.26	22.01	22.48	20.41	21.17	20.89	21.65	22.12
	6H	21.51	22.14	22.02	22.65	23.14	21.14	21.78	21.65	22.28	22.77
	8H	21.83	22.38	22.33	22.87	23.44	21.45	22.01	21.95	22.50	23.06