

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: P931052

Luminaire Tested: DFN2DS-SQ3F0-120DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931052
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-SQ3F0-120DS840-RLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

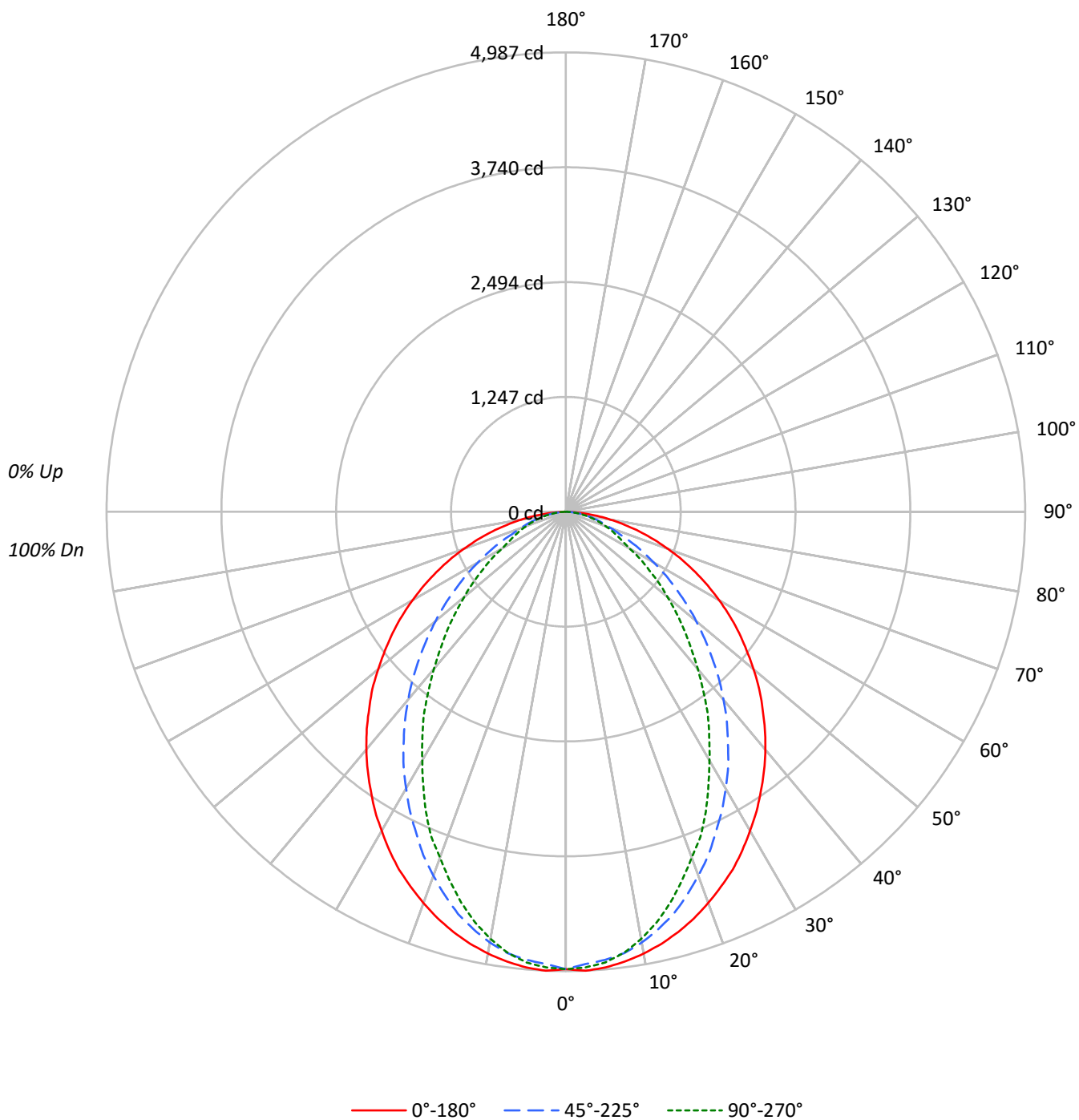
Lumens per Lamp: N/A
Luminaire Lumens: 10210.2 lumens
Efficiency: N/A
Efficacy: 77.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 131.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9957
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°	5688	5688	5688
5°	5710	5617	5648
10°	5666	5525	5478
15°	5601	5361	5207
20°	5511	5128	4870
25°	5419	4862	4544
30°	5291	4589	4125
35°	5166	4293	3758
40°	5040	3985	3333
45°	4892	3640	2948
50°	4741	3292	2571
55°	4586	2917	2208
60°	4407	2522	1833
65°	4203	2120	1668
70°	3959	1745	1535
75°	3659	1592	1433
80°	3231	1421	1305
85°	2539	1121	1121

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4892 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	465.3	4.6
10°-20°	1277.3	12.5
20°-30°	1793.3	17.6
30°-40°	1954.8	19.1
40°-50°	1796.7	17.6
50°-60°	1411.0	13.8
60°-70°	918.4	9.0
70°-80°	472.8	4.6
80°-90°	120.7	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°	3535.9	34.6
0°-40°	5490.6	53.8
0°-60°	8698.3	85.2
0°-90°	10210.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10210.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4965	4965	4965	4965	4965	
5°	4965	4942	4884	4924	4911	471
15°	4722	4672	4520	4434	4390	1331
25°	4286	4142	3846	3662	3594	1971
35°	3693	3464	3069	2786	2686	2312
45°	3019	2718	2246	1927	1819	2332
55°	2296	1945	1460	1191	1105	2051
65°	1550	1186	782	629	615	1537
75°	826	512	360	328	324	874
85°	193	99	85	85	85	232
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4964.6	4964.6	4964.6	4964.6	4964.6
2.5°	4987.0	4964.6	4915.0	4960.3	4951.1
5°	4964.6	4942.1	4883.5	4924.0	4910.7
7.5°	4924.0	4897.3	4834.4	4852.0	4829.6
10°	4870.2	4838.7	4749.0	4735.2	4708.6
12.5°	4802.9	4762.5	4640.8	4614.2	4564.7
15°	4721.9	4672.4	4519.8	4434.4	4389.7
17.5°	4627.5	4555.6	4366.8	4268.2	4196.2
20°	4519.8	4429.7	4205.2	4093.2	3994.0
22.5°	4403.0	4299.6	4038.8	3886.3	3819.1
25°	4286.3	4142.2	3845.7	3661.8	3594.1
27.5°	4147.0	3994.0	3666.1	3455.0	3351.4
30°	3998.8	3827.7	3468.3	3239.4	3117.9
32.5°	3854.9	3647.9	3280.0	3010.2	2897.7
35°	3693.3	3464.0	3068.8	2785.7	2686.5
37.5°	3535.9	3288.6	2871.0	2560.7	2448.6
40°	3369.6	3100.3	2664.2	2345.2	2228.4
42.5°	3198.9	2911.5	2457.8	2125.0	2013.0
45°	3019.2	2718.0	2246.5	1927.2	1819.4
47.5°	2848.5	2529.7	2044.4	1725.1	1626.4
50°	2659.9	2340.9	1846.6	1536.3	1442.4
52.5°	2475.4	2138.3	1657.9	1361.4	1276.1
55°	2295.7	1945.3	1460.1	1190.7	1105.4
57.5°	2111.6	1752.3	1285.1	1033.4	961.5
60°	1922.9	1563.5	1100.6	871.9	799.9
62.5°	1738.9	1379.5	943.3	727.9	692.1
65°	1550.1	1186.0	781.8	629.2	615.4
67.5°	1370.5	1006.2	629.2	552.5	539.1
70°	1181.7	831.3	521.0	476.2	458.1
72.5°	1002.0	669.3	435.6	399.9	390.9
75°	826.5	511.9	359.5	327.9	323.6
77.5°	651.7	363.7	283.2	265.1	256.0
80°	489.6	260.8	215.4	197.8	197.8
82.5°	341.3	175.4	148.2	139.1	139.1
85°	193.1	98.7	85.3	85.3	85.3
87.5°	72.0	35.7	35.7	31.4	31.4
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	17.27	18.80	17.64	19.11	19.42	13.24	14.76	13.60	15.07	15.38
	3H	19.04	20.41	19.42	20.73	21.09	14.50	15.87	14.88	16.19	16.56
	4H	19.71	20.99	20.11	21.34	21.71	15.00	16.28	15.40	16.63	17.01
	6H	20.20	21.38	20.61	21.74	22.14	15.38	16.57	15.80	16.93	17.32
	8H	20.36	21.49	20.79	21.88	22.28	15.51	16.63	15.93	17.02	17.42
	12H	20.46	21.54	20.89	21.92	22.35	15.59	16.67	16.02	17.05	17.48
4H	2H	17.38	18.66	17.78	19.01	19.39	13.93	15.21	14.33	15.56	15.94
	3H	19.31	20.37	19.72	20.77	21.18	15.37	16.44	15.78	16.84	17.24
	4H	20.06	21.02	20.49	21.43	21.87	15.97	16.93	16.41	17.35	17.78
	6H	20.65	21.49	21.11	21.93	22.39	16.46	17.29	16.92	17.74	18.20
	8H	20.87	21.65	21.33	22.09	22.56	16.62	17.40	17.09	17.84	18.31
	12H	21.02	21.72	21.50	22.19	22.67	16.74	17.43	17.22	17.91	18.38
8H	4H	20.09	20.86	20.55	21.31	21.77	16.33	17.10	16.79	17.55	18.02
	6H	20.72	21.37	21.22	21.86	22.33	16.91	17.56	17.41	18.05	18.52
	8H	20.97	21.55	21.49	22.06	22.55	17.13	17.71	17.65	18.22	18.71
	12H	21.18	21.69	21.69	22.18	22.74	17.31	17.82	17.82	18.32	18.88
12H	4H	20.07	20.76	20.55	21.24	21.71	16.37	17.06	16.85	17.54	18.01
	6H	20.70	21.28	21.22	21.79	22.28	16.98	17.55	17.49	18.06	18.55
	8H	20.99	21.50	21.50	21.99	22.55	17.25	17.76	17.76	18.25	18.82