

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: P931016

Luminaire Tested: DFN2DS-SQ3F0-100DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931016
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-SQ3F0-100DS840-RLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

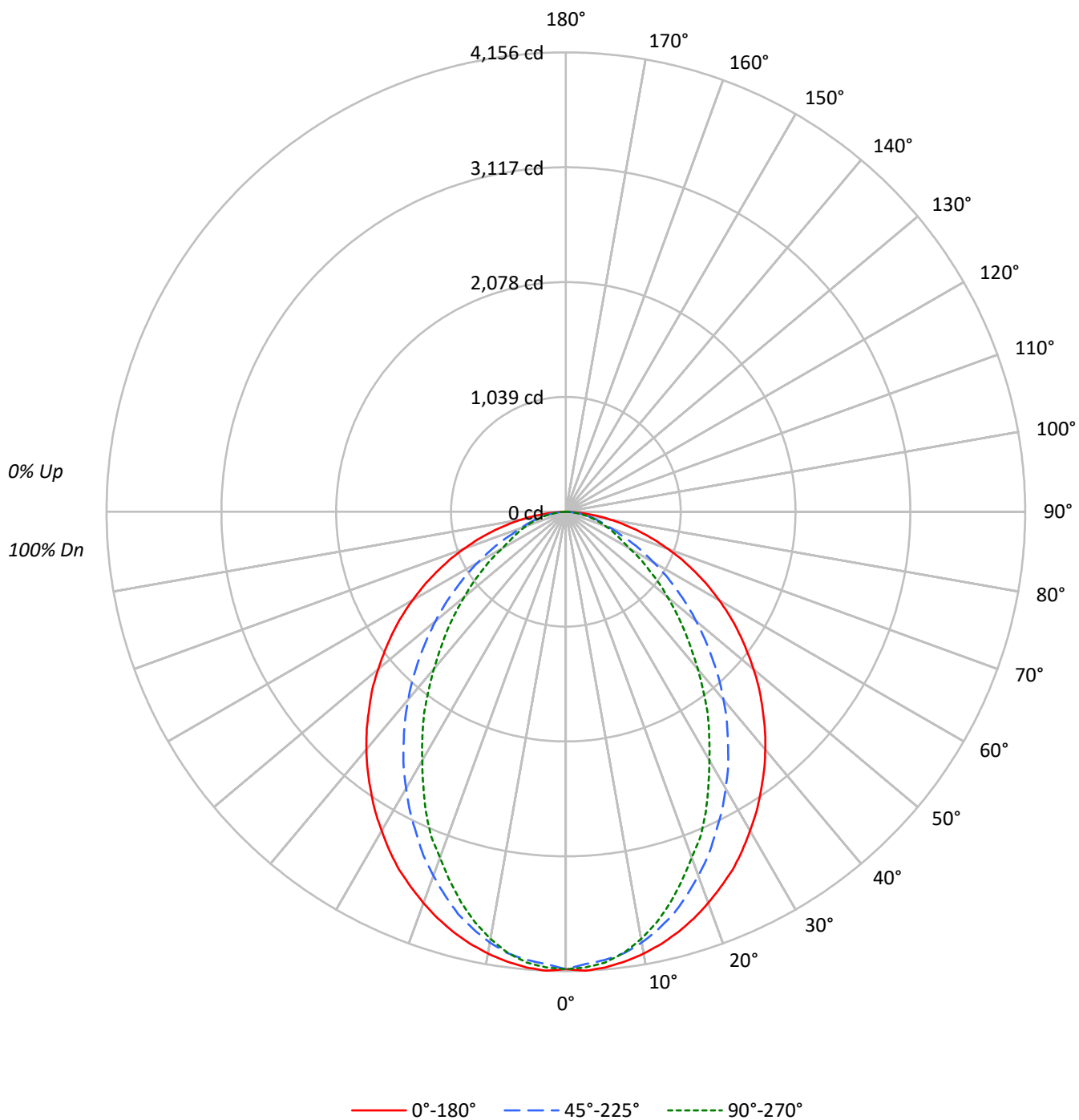
Lumens per Lamp: N/A
Luminaire Lumens: 8508.5 lumens
Efficiency: N/A
Efficacy: 81.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 104.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
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°	4740	4740	4740
5°	4758	4681	4707
10°	4722	4605	4565
15°	4668	4468	4339
20°	4593	4273	4058
25°	4516	4052	3787
30°	4409	3824	3438
35°	4305	3577	3131
40°	4200	3321	2778
45°	4077	3034	2457
50°	3951	2743	2143
55°	3821	2431	1840
60°	3672	2102	1528
65°	3502	1766	1390
70°	3299	1454	1279
75°	3049	1326	1194
80°	2691	1185	1088
85°	2115	935	935

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 4077 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	387.7	4.6
10°-20°	1064.4	12.5
20°-30°	1494.4	17.6
30°-40°	1629.0	19.1
40°-50°	1497.2	17.6
50°-60°	1175.8	13.8
60°-70°	765.3	9.0
70°-80°	394.0	4.6
80°-90°	100.6	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°	2946.5	34.6
0°-40°	4575.5	53.8
0°-60°	7248.6	85.2
0°-90°	8508.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8508.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4137	4137	4137	4137	4137	
5°	4137	4118	4070	4103	4092	392
15°	3935	3894	3766	3695	3658	1109
25°	3572	3452	3205	3051	2995	1643
35°	3078	2887	2557	2321	2239	1926
45°	2516	2265	1872	1606	1516	1943
55°	1913	1621	1217	992	921	1709
65°	1292	988	652	524	513	1281
75°	689	427	300	273	270	729
85°	161	82	71	71	71	193
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4137.1	4137.1	4137.1	4137.1	4137.1
2.5°	4155.8	4137.1	4095.8	4133.5	4126.0
5°	4137.1	4118.4	4069.6	4103.4	4092.2
7.5°	4103.4	4081.1	4028.6	4043.3	4024.7
10°	4058.5	4032.2	3957.6	3946.0	3923.8
12.5°	4002.5	3968.7	3867.4	3845.1	3803.8
15°	3934.9	3893.6	3766.5	3695.4	3658.1
17.5°	3856.3	3796.3	3639.0	3556.8	3496.8
20°	3766.5	3691.4	3504.3	3411.0	3328.3
22.5°	3669.2	3583.0	3365.7	3238.6	3182.6
25°	3571.9	3451.9	3204.8	3051.4	2995.1
27.5°	3455.9	3328.3	3055.1	2879.1	2792.9
30°	3332.3	3189.7	2890.2	2699.6	2598.3
32.5°	3212.4	3039.9	2733.3	2508.5	2414.7
35°	3077.7	2886.7	2557.4	2321.4	2238.7
37.5°	2946.6	2740.4	2392.5	2133.9	2040.5
40°	2808.0	2583.6	2220.1	1954.4	1857.1
42.5°	2665.8	2426.2	2048.1	1770.9	1677.5
45°	2516.0	2265.0	1872.2	1606.0	1516.2
47.5°	2373.9	2108.1	1703.7	1437.5	1355.4
50°	2216.5	1950.7	1538.8	1280.3	1202.0
52.5°	2062.8	1782.0	1381.6	1134.4	1063.4
55°	1913.0	1621.1	1216.7	992.3	921.1
57.5°	1759.8	1460.2	1071.0	861.2	801.2
60°	1602.4	1302.9	917.2	726.5	666.6
62.5°	1449.0	1149.5	786.1	606.6	576.8
65°	1291.8	988.3	651.5	524.3	512.8
67.5°	1142.0	838.5	524.3	460.4	449.2
70°	984.7	692.8	434.1	396.8	381.8
72.5°	834.9	557.7	363.1	333.2	325.7
75°	688.8	426.6	299.5	273.3	269.7
77.5°	543.0	303.1	235.9	220.8	213.3
80°	407.9	217.3	179.6	164.9	164.9
82.5°	284.4	146.1	123.5	116.0	116.0
85°	160.9	82.2	71.1	71.1	71.1
87.5°	60.0	29.8	29.8	26.2	26.2
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	16.64	18.16	17.01	18.48	18.79	12.60	14.12	12.97	14.44	14.75
	3H	18.41	19.77	18.78	20.10	20.46	13.87	15.23	14.24	15.56	15.92
	4H	19.07	20.35	19.47	20.70	21.08	14.37	15.65	14.77	16.00	16.38
	6H	19.56	20.74	19.97	21.11	21.50	14.75	15.93	15.16	16.30	16.69
	8H	19.73	20.85	20.15	21.24	21.64	14.87	16.00	15.30	16.39	16.79
	12H	19.83	20.91	20.26	21.29	21.72	14.96	16.03	15.39	16.42	16.84
4H	2H	16.75	18.03	17.14	18.37	18.75	13.30	14.58	13.70	14.93	15.31
	3H	18.68	19.74	19.09	20.14	20.54	14.74	15.80	15.15	16.20	16.60
	4H	19.43	20.38	19.86	20.80	21.24	15.34	16.30	15.77	16.71	17.15
	6H	20.02	20.85	20.48	21.29	21.75	15.83	16.66	16.29	17.10	17.56
	8H	20.23	21.01	20.70	21.46	21.92	15.99	16.77	16.45	17.21	17.68
	12H	20.39	21.08	20.87	21.56	22.03	16.11	16.80	16.59	17.28	17.75
8H	4H	19.45	20.23	19.92	20.67	21.14	15.69	16.47	16.16	16.91	17.38
	6H	20.09	20.73	20.59	21.22	21.70	16.28	16.92	16.78	17.41	17.89
	8H	20.34	20.92	20.85	21.43	21.91	16.50	17.08	17.02	17.59	18.08
	12H	20.54	21.05	21.05	21.55	22.11	16.68	17.19	17.19	17.68	18.25
12H	4H	19.44	20.13	19.92	20.61	21.08	15.74	16.43	16.22	16.91	17.38
	6H	20.07	20.65	20.58	21.16	21.65	16.34	16.92	16.86	17.43	17.92
	8H	20.35	20.86	20.86	21.36	21.92	16.62	17.13	17.13	17.62	18.18