

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: P930996

Luminaire Tested: DFN2DS-SQ3F0-090DS835-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930996
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-SQ3F0-090DS835-RLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

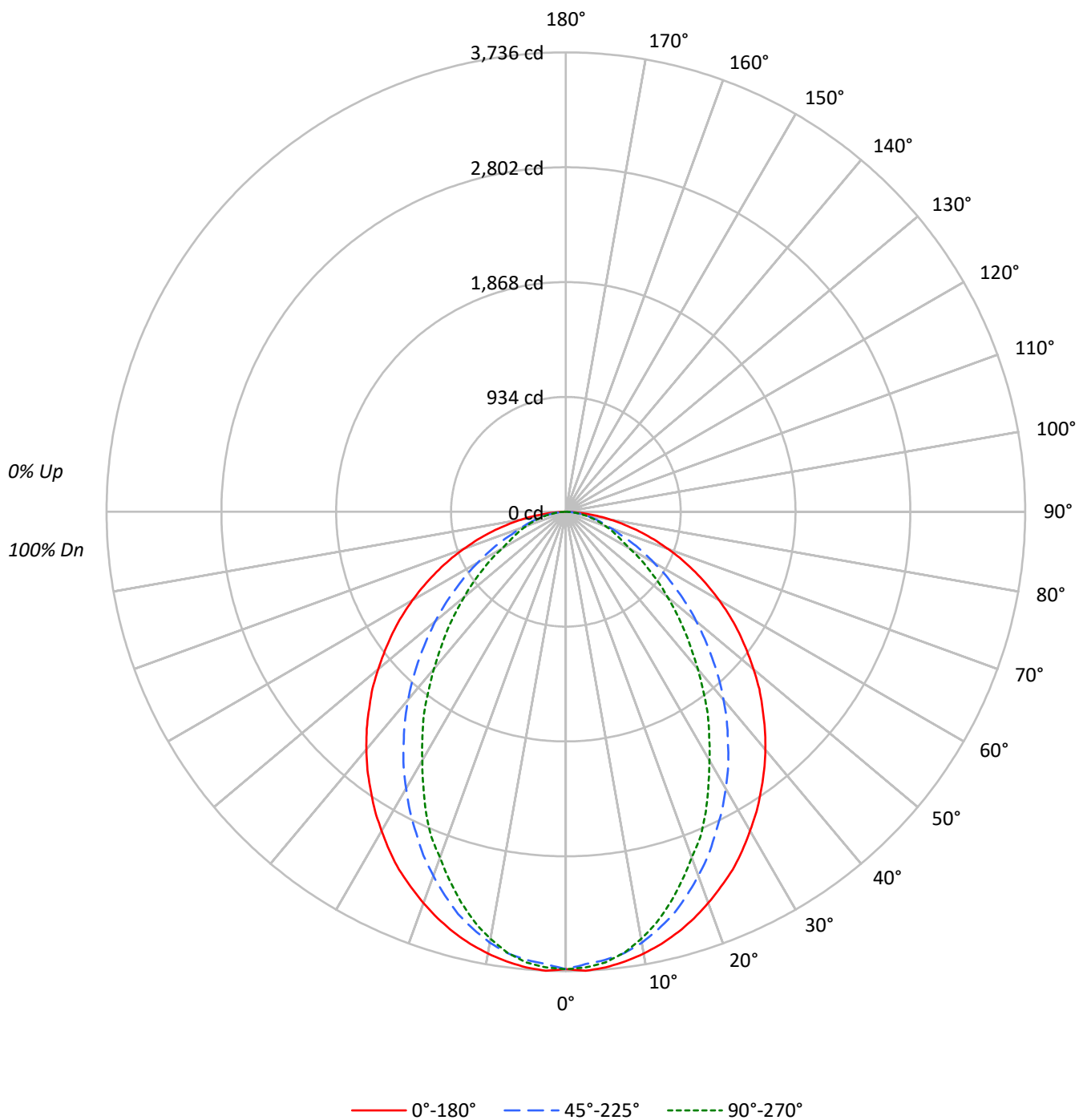
Lumens per Lamp: N/A
Luminaire Lumens: 7650.0 lumens
Efficiency: N/A
Efficacy: 81.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 0.064
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°	4262	4262	4262
5°	4278	4209	4232
10°	4246	4140	4105
15°	4197	4017	3901
20°	4129	3842	3649
25°	4060	3643	3405
30°	3964	3438	3091
35°	3871	3216	2816
40°	3776	2986	2497
45°	3666	2727	2209
50°	3552	2466	1926
55°	3436	2185	1654
60°	3302	1890	1373
65°	3149	1588	1250
70°	2966	1308	1150
75°	2742	1192	1074
80°	2420	1065	978
85°	1901	840	840

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3666 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	348.6	4.6
10°-20°	957.0	12.5
20°-30°	1343.6	17.6
30°-40°	1464.6	19.1
40°-50°	1346.2	17.6
50°-60°	1057.2	13.8
60°-70°	688.1	9.0
70°-80°	354.2	4.6
80°-90°	90.4	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°	2649.2	34.6
0°-40°	4113.9	53.8
0°-60°	6517.2	85.2
0°-90°	7650.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7650.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3720	3720	3720	3720	3720	
5°	3720	3703	3659	3689	3679	353
15°	3538	3501	3386	3322	3289	997
25°	3212	3104	2882	2744	2693	1477
35°	2767	2595	2299	2087	2013	1732
45°	2262	2036	1683	1444	1363	1747
55°	1720	1458	1094	892	828	1537
65°	1161	889	586	471	461	1151
75°	619	384	269	246	242	655
85°	145	74	64	64	64	173
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3719.7	3719.7	3719.7	3719.7	3719.7
2.5°	3736.5	3719.7	3682.5	3716.5	3709.7
5°	3719.7	3702.9	3659.0	3689.3	3679.3
7.5°	3689.3	3669.3	3622.2	3635.4	3618.6
10°	3649.0	3625.4	3558.3	3547.9	3527.9
12.5°	3598.6	3568.3	3477.2	3457.2	3420.0
15°	3537.9	3500.8	3386.5	3322.5	3289.0
17.5°	3467.2	3413.3	3271.8	3197.9	3144.0
20°	3386.5	3319.0	3150.7	3066.8	2992.5
22.5°	3299.0	3221.5	3026.1	2911.8	2861.5
25°	3211.5	3103.6	2881.5	2743.6	2692.9
27.5°	3107.2	2992.5	2746.8	2588.6	2511.1
30°	2996.1	2867.9	2598.6	2427.2	2336.1
32.5°	2888.2	2733.2	2457.5	2255.4	2171.1
35°	2767.2	2595.4	2299.3	2087.2	2012.9
37.5°	2649.3	2464.0	2151.1	1918.6	1834.7
40°	2524.7	2322.9	1996.1	1757.2	1669.7
42.5°	2396.8	2181.5	1841.4	1592.2	1508.2
45°	2262.2	2036.5	1683.2	1443.9	1363.2
47.5°	2134.3	1895.4	1531.8	1292.5	1218.6
50°	1992.9	1753.9	1383.6	1151.1	1080.7
52.5°	1854.7	1602.2	1242.2	1020.0	956.1
55°	1720.0	1457.5	1093.9	892.2	828.2
57.5°	1582.2	1312.9	962.9	774.3	720.4
60°	1440.7	1171.4	824.7	653.2	599.3
62.5°	1302.9	1033.6	706.8	545.4	518.6
65°	1161.4	888.6	585.7	471.4	461.1
67.5°	1026.8	753.9	471.4	413.9	403.9
70°	885.4	622.9	390.4	356.8	343.2
72.5°	750.7	501.4	326.4	299.6	292.9
75°	619.3	383.6	269.3	245.7	242.5
77.5°	488.2	272.5	212.1	198.6	191.8
80°	366.8	195.4	161.4	148.2	148.2
82.5°	255.7	131.4	111.1	104.3	104.3
85°	144.6	73.9	63.9	63.9	63.9
87.5°	53.9	26.8	26.8	23.6	23.6
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	16.27	17.79	16.64	18.11	18.42	12.23	13.75	12.60	14.07	14.38
	3H	18.04	19.40	18.41	19.73	20.09	13.50	14.86	13.88	15.19	15.55
	4H	18.70	19.98	19.10	20.33	20.71	14.00	15.28	14.40	15.63	16.01
	6H	19.19	20.38	19.60	20.74	21.13	14.38	15.56	14.79	15.93	16.32
	8H	19.36	20.48	19.78	20.87	21.27	14.50	15.63	14.93	16.02	16.42
	12H	19.46	20.54	19.89	20.92	21.35	14.59	15.66	15.02	16.05	16.48
4H	2H	16.38	17.66	16.78	18.01	18.38	12.93	14.21	13.33	14.56	14.94
	3H	18.31	19.37	18.72	19.77	20.17	14.37	15.43	14.78	15.83	16.23
	4H	19.06	20.02	19.49	20.43	20.87	14.97	15.93	15.40	16.34	16.78
	6H	19.65	20.48	20.11	20.92	21.38	15.46	16.29	15.92	16.73	17.19
	8H	19.86	20.64	20.33	21.09	21.55	15.62	16.40	16.08	16.84	17.31
	12H	20.02	20.71	20.50	21.19	21.66	15.74	16.43	16.22	16.91	17.38
8H	4H	19.08	19.86	19.55	20.30	20.77	15.32	16.10	15.79	16.55	17.01
	6H	19.72	20.36	20.22	20.85	21.33	15.91	16.55	16.41	17.04	17.52
	8H	19.97	20.55	20.48	21.06	21.54	16.13	16.71	16.65	17.22	17.71
	12H	20.17	20.68	20.68	21.18	21.74	16.31	16.82	16.82	17.31	17.88
12H	4H	19.07	19.76	19.55	20.24	20.71	15.37	16.06	15.85	16.54	17.01
	6H	19.70	20.28	20.21	20.79	21.28	15.97	16.55	16.49	17.06	17.55
	8H	19.99	20.50	20.49	20.99	21.55	16.25	16.76	16.76	17.25	17.81