

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: P931138

Luminaire Tested: DFN2DS-SQ4F0-100DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931138
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-SQ4F0-100DS830-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

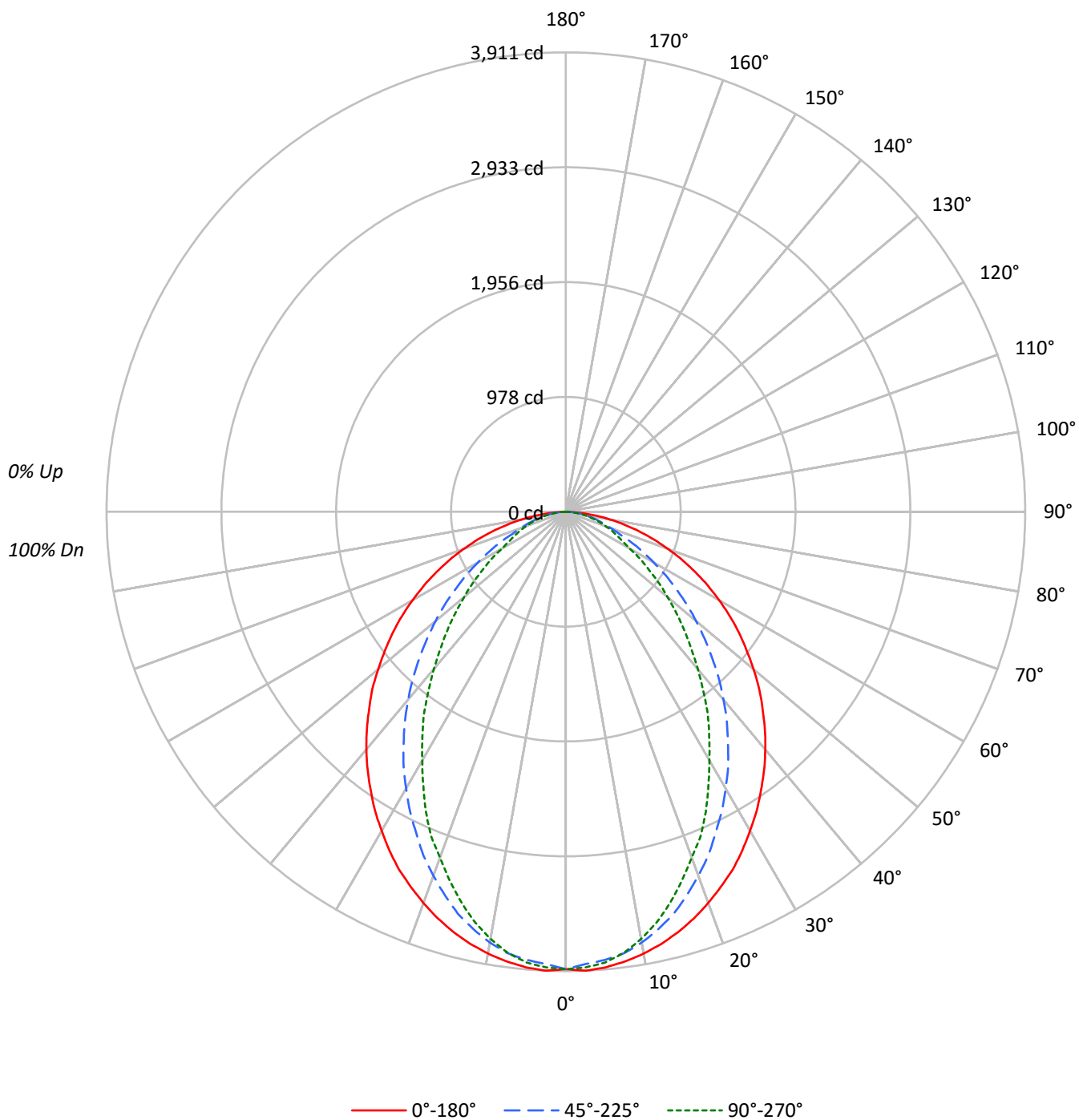
Lumens per Lamp: N/A
Luminaire Lumens: 8007.0 lumens
Efficiency: N/A
Efficacy: 79.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 100.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
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°	2732	2732	2732
5°	2742	2697	2712
10°	2721	2654	2631
15°	2690	2575	2501
20°	2647	2462	2339
25°	2602	2335	2182
30°	2541	2204	1981
35°	2481	2061	1805
40°	2420	1914	1601
45°	2350	1748	1416
50°	2277	1581	1235
55°	2202	1401	1060
60°	2116	1211	880
65°	2018	1018	801
70°	1901	838	737
75°	1757	764	688
80°	1551	683	627
85°	1219	539	539

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2350 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	364.9	4.6
10°-20°	1001.7	12.5
20°-30°	1406.3	17.6
30°-40°	1533.0	19.1
40°-50°	1409.0	17.6
50°-60°	1106.5	13.8
60°-70°	720.2	9.0
70°-80°	370.7	4.6
80°-90°	94.7	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°	2772.9	34.6
0°-40°	4305.8	53.8
0°-60°	6821.3	85.2
0°-90°	8007.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8007.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3893	3893	3893	3893	3893	
5°	3893	3876	3830	3862	3851	369
15°	3703	3664	3544	3478	3442	1043
25°	3361	3248	3016	2872	2819	1546
35°	2896	2716	2407	2185	2107	1813
45°	2368	2132	1762	1511	1427	1829
55°	1800	1526	1145	934	867	1609
65°	1216	930	613	493	483	1205
75°	648	402	282	257	254	686
85°	151	77	67	67	67	181
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3893.3	3893.3	3893.3	3893.3	3893.3
2.5°	3910.8	3893.3	3854.4	3889.9	3882.8
5°	3893.3	3875.7	3829.7	3861.5	3851.0
7.5°	3861.5	3840.5	3791.2	3805.0	3787.5
10°	3819.2	3794.6	3724.3	3713.5	3692.5
12.5°	3766.6	3734.7	3639.4	3618.5	3579.6
15°	3703.0	3664.1	3544.5	3477.6	3442.4
17.5°	3629.0	3572.5	3424.5	3347.1	3290.7
20°	3544.5	3473.8	3297.8	3210.0	3132.1
22.5°	3452.9	3371.8	3167.3	3047.7	2995.0
25°	3361.3	3248.5	3015.9	2871.6	2818.6
27.5°	3252.2	3132.1	2875.0	2709.4	2628.3
30°	3135.9	3001.7	2719.8	2540.5	2445.1
32.5°	3023.1	2860.8	2572.2	2360.7	2272.4
35°	2896.3	2716.5	2406.6	2184.6	2106.8
37.5°	2773.0	2578.9	2251.5	2008.2	1920.3
40°	2642.5	2431.3	2089.3	1839.2	1747.6
42.5°	2508.6	2283.2	1927.4	1666.5	1578.6
45°	2367.7	2131.5	1761.8	1511.3	1426.8
47.5°	2234.0	1983.9	1603.3	1352.8	1275.5
50°	2085.9	1835.8	1448.1	1204.8	1131.2
52.5°	1941.2	1676.9	1300.1	1067.6	1000.7
55°	1800.3	1525.6	1145.0	933.8	866.8
57.5°	1656.0	1374.1	1007.8	810.4	754.0
60°	1508.0	1226.1	863.2	683.7	627.3
62.5°	1363.6	1081.8	739.8	570.9	542.8
65°	1215.7	930.0	613.1	493.4	482.6
67.5°	1074.7	789.1	493.4	433.2	422.8
70°	926.6	652.0	408.5	373.4	359.3
72.5°	785.7	524.8	341.7	313.6	306.5
75°	648.2	401.5	281.8	257.2	253.8
77.5°	511.0	285.2	222.0	207.8	200.7
80°	383.9	204.5	169.0	155.1	155.1
82.5°	267.6	137.5	116.2	109.2	109.2
85°	151.4	77.3	66.9	66.9	66.9
87.5°	56.4	28.1	28.1	24.7	24.7
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	14.73	16.25	15.09	16.56	16.88	10.69	12.21	11.05	12.52	12.84
	3H	16.49	17.86	16.87	18.18	18.55	11.95	13.32	12.33	13.64	14.01
	4H	17.16	18.44	17.56	18.79	19.17	12.45	13.73	12.85	14.08	14.46
	6H	17.65	18.83	18.06	19.20	19.59	12.83	14.02	13.25	14.38	14.78
	8H	17.81	18.94	18.24	19.33	19.73	12.96	14.09	13.39	14.48	14.88
	12H	17.92	18.99	18.35	19.38	19.80	13.04	14.12	13.47	14.50	14.93
4H	2H	14.83	16.11	15.23	16.46	16.84	11.38	12.66	11.78	13.01	13.39
	3H	16.76	17.83	17.17	18.23	18.63	12.83	13.89	13.24	14.29	14.69
	4H	17.51	18.47	17.95	18.89	19.32	13.42	14.38	13.86	14.80	15.24
	6H	18.10	18.94	18.56	19.38	19.84	13.91	14.74	14.37	15.19	15.65
	8H	18.32	19.10	18.78	19.54	20.01	14.07	14.85	14.54	15.30	15.76
	12H	18.47	19.17	18.95	19.65	20.12	14.19	14.89	14.67	15.36	15.84
8H	4H	17.54	18.31	18.00	18.76	19.23	13.78	14.56	14.24	15.00	15.47
	6H	18.17	18.82	18.67	19.31	19.79	14.37	15.01	14.86	15.50	15.98
	8H	18.42	19.00	18.94	19.51	20.00	14.59	15.16	15.10	15.67	16.16
	12H	18.63	19.14	19.14	19.63	20.20	14.77	15.28	15.28	15.77	16.33
12H	4H	17.52	18.22	18.00	18.69	19.17	13.82	14.52	14.30	14.99	15.47
	6H	18.16	18.73	18.67	19.24	19.73	14.43	15.01	14.94	15.52	16.00
	8H	18.44	18.95	18.95	19.44	20.01	14.70	15.21	15.21	15.70	16.27