

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: P931104

Luminaire Tested: DFN2DS-SQ4F0-080DS835-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931104
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-SQ4F0-080DS835-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

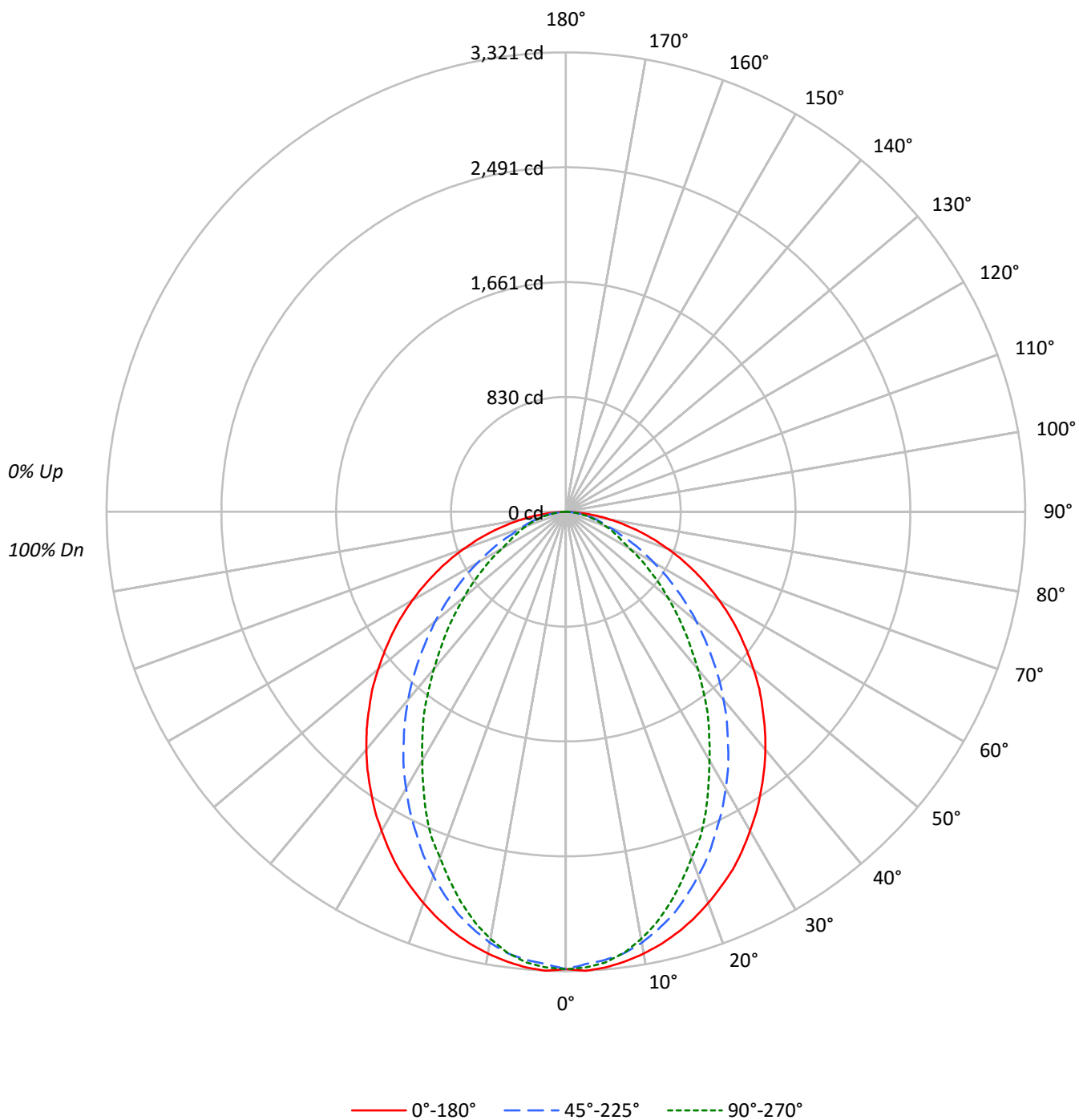
Lumens per Lamp: N/A
Luminaire Lumens: 6800.0 lumens
Efficiency: N/A
Efficacy: 85.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 79.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9954
Total Harmonic Distortion (THDi): 0.076
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°	2320	2320	2320
5°	2329	2291	2304
10°	2311	2254	2234
15°	2284	2187	2124
20°	2248	2091	1986
25°	2210	1983	1853
30°	2158	1872	1682
35°	2107	1751	1533
40°	2056	1625	1359
45°	1995	1485	1202
50°	1934	1343	1049
55°	1870	1190	901
60°	1797	1029	748
65°	1714	864	680
70°	1615	712	626
75°	1492	649	585
80°	1317	580	532
85°	1035	457	457

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1995 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	309.9	4.6
10°-20°	850.7	12.5
20°-30°	1194.3	17.6
30°-40°	1301.9	19.1
40°-50°	1196.6	17.6
50°-60°	939.7	13.8
60°-70°	611.7	9.0
70°-80°	314.9	4.6
80°-90°	80.4	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°	2354.9	34.6
0°-40°	3656.8	53.8
0°-60°	5793.1	85.2
0°-90°	6800.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6800.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3306	3306	3306	3306	3306	
5°	3306	3292	3252	3279	3270	314
15°	3145	3112	3010	2953	2924	886
25°	2855	2759	2561	2439	2394	1313
35°	2460	2307	2044	1855	1789	1540
45°	2011	1810	1496	1284	1212	1553
55°	1529	1296	972	793	736	1366
65°	1032	790	521	419	410	1024
75°	550	341	239	218	216	582
85°	129	66	57	57	57	154
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3306.4	3306.4	3306.4	3306.4	3306.4
2.5°	3321.3	3306.4	3273.4	3303.5	3297.5
5°	3306.4	3291.5	3252.4	3279.4	3270.5
7.5°	3279.4	3261.6	3219.7	3231.5	3216.5
10°	3243.5	3222.6	3162.9	3153.7	3135.9
12.5°	3198.8	3171.8	3090.8	3073.0	3040.0
15°	3144.8	3111.8	3010.2	2953.4	2923.5
17.5°	3081.9	3034.0	2908.3	2842.6	2794.6
20°	3010.2	2950.2	2800.7	2726.1	2660.0
22.5°	2932.4	2863.5	2689.9	2588.3	2543.5
25°	2854.6	2758.8	2561.3	2438.8	2393.7
27.5°	2761.9	2660.0	2441.6	2301.0	2232.1
30°	2663.2	2549.2	2309.9	2157.5	2076.5
32.5°	2567.3	2429.6	2184.5	2004.8	1929.9
35°	2459.7	2307.0	2043.8	1855.3	1789.2
37.5°	2354.9	2190.2	1912.1	1705.4	1630.8
40°	2244.2	2064.8	1774.3	1561.9	1484.1
42.5°	2130.5	1939.1	1636.8	1415.3	1340.6
45°	2010.8	1810.2	1496.2	1283.5	1211.8
47.5°	1897.2	1684.8	1361.6	1148.9	1083.2
50°	1771.4	1559.1	1229.9	1023.2	960.6
52.5°	1648.6	1424.1	1104.1	906.7	849.9
55°	1528.9	1295.6	972.4	793.0	736.2
57.5°	1406.4	1167.0	855.9	688.3	640.3
60°	1280.6	1041.3	733.0	580.6	532.7
62.5°	1158.1	918.7	628.3	484.8	461.0
65°	1032.4	789.8	520.6	419.1	409.8
67.5°	912.7	670.2	419.1	367.9	359.1
70°	787.0	553.7	347.0	317.1	305.1
72.5°	667.3	445.7	290.2	266.4	260.3
75°	550.5	341.0	239.4	218.4	215.6
77.5°	434.0	242.2	188.6	176.5	170.5
80°	326.0	173.7	143.5	131.7	131.7
82.5°	227.3	116.8	98.7	92.7	92.7
85°	128.6	65.7	56.8	56.8	56.8
87.5°	47.9	23.8	23.8	21.0	21.0
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	14.16	15.68	14.52	15.99	16.31	10.12	11.64	10.48	11.95	12.27
	3H	15.92	17.29	16.30	17.62	17.98	11.38	12.75	11.76	13.08	13.44
	4H	16.59	17.87	16.99	18.22	18.60	11.89	13.17	12.29	13.52	13.89
	6H	17.08	18.26	17.49	18.63	19.02	12.27	13.45	12.68	13.82	14.21
	8H	17.24	18.37	17.67	18.76	19.16	12.39	13.52	12.82	13.91	14.31
	12H	17.35	18.43	17.78	18.81	19.24	12.47	13.55	12.90	13.93	14.36
4H	2H	14.26	15.54	14.66	15.89	16.27	10.81	12.10	11.21	12.44	12.82
	3H	16.20	17.26	16.61	17.66	18.06	12.26	13.32	12.67	13.72	14.12
	4H	16.95	17.90	17.38	18.32	18.76	12.86	13.81	13.29	14.23	14.67
	6H	17.54	18.37	17.99	18.81	19.27	13.35	14.18	13.80	14.62	15.08
	8H	17.75	18.53	18.22	18.97	19.44	13.51	14.28	13.97	14.73	15.20
	12H	17.91	18.60	18.39	19.08	19.55	13.62	14.32	14.11	14.80	15.27
8H	4H	16.97	17.75	17.43	18.19	18.66	13.21	13.99	13.67	14.43	14.90
	6H	17.61	18.25	18.10	18.74	19.22	13.80	14.44	14.29	14.93	15.41
	8H	17.86	18.43	18.37	18.94	19.43	14.02	14.60	14.53	15.10	15.59
	12H	18.06	18.57	18.57	19.06	19.63	14.20	14.71	14.71	15.20	15.76
12H	4H	16.95	17.65	17.44	18.13	18.60	13.25	13.95	13.74	14.43	14.90
	6H	17.59	18.17	18.10	18.68	19.16	13.86	14.44	14.37	14.95	15.44
	8H	17.87	18.38	18.38	18.87	19.44	14.13	14.64	14.64	15.14	15.70