

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: P931175

Luminaire Tested: DFN2DS-SQ4F0-120DS835-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931175
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ4F0-120DS835-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

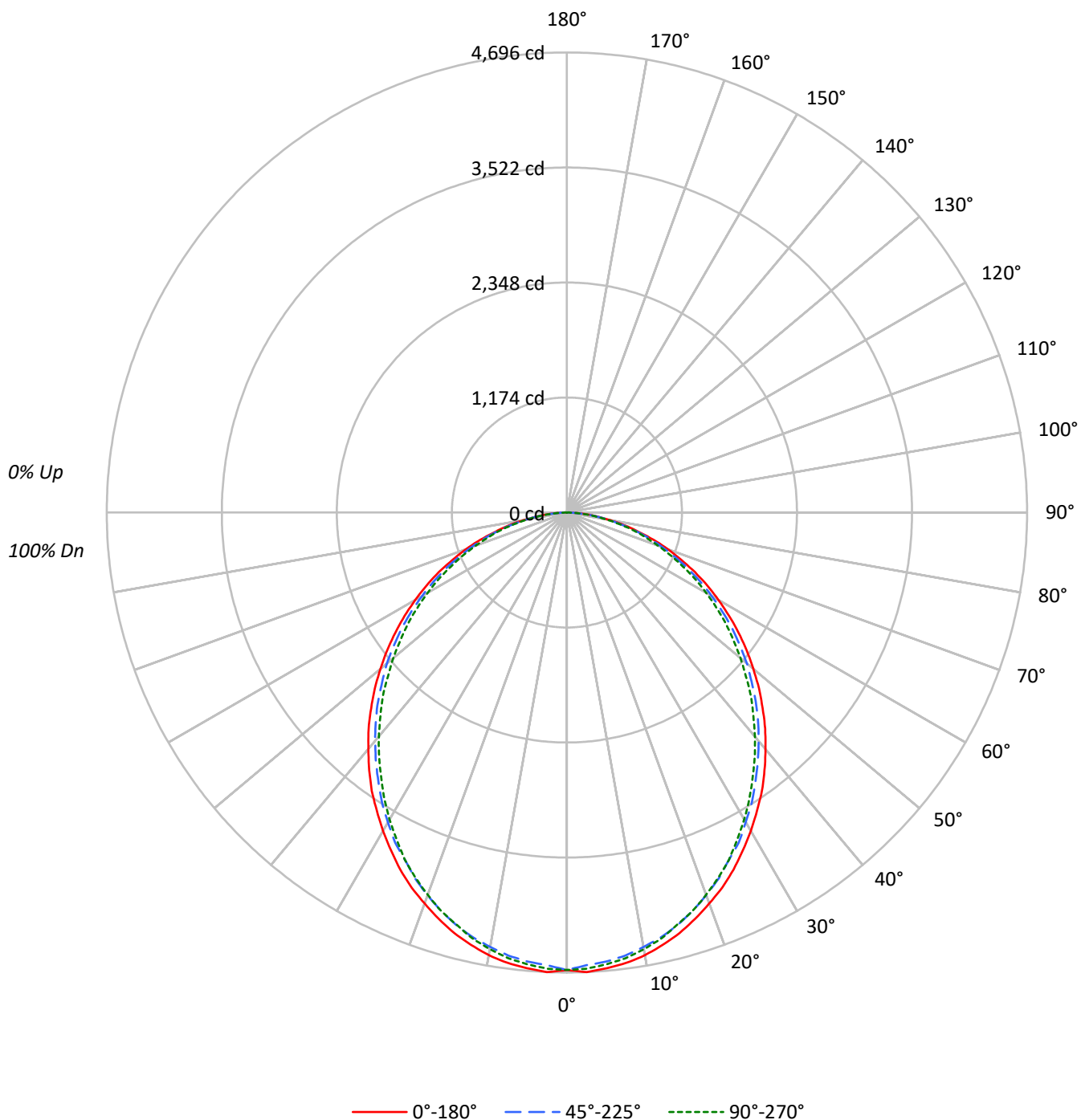
Lumens per Lamp: N/A
Luminaire Lumens: 11880.0 lumens
Efficiency: N/A
Efficacy: 94.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 125.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931175

CATALOG NUMBER: DFN2DS-SQ4F0-120DS835-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P931175

CATALOG NUMBER: DFN2DS-SQ4F0-120DS835-FLL

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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3276	3276	3276
5°	3289	3242	3261
10°	3270	3209	3225
15°	3229	3167	3164
20°	3171	3105	3101
25°	3115	3028	3028
30°	3041	2958	2932
35°	2973	2873	2831
40°	2887	2788	2735
45°	2803	2704	2638
50°	2710	2617	2524
55°	2615	2516	2422
60°	2508	2395	2306
65°	2393	2274	2170
70°	2248	2127	2027
75°	2044	1959	1911
80°	1815	1759	1669
85°	1481	1411	1266

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2803 cd/sqm

TEST NUMBER: P931175

CATALOG NUMBER: DFN2DS-SQ4F0-120DS835-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	439.5	3.7
10°-20°	1236.5	10.4
20°-30°	1817.2	15.3
30°-40°	2110.5	17.8
40°-50°	2107.9	17.7
50°-60°	1838.0	15.5
60°-70°	1358.7	11.4
70°-80°	768.7	6.5
80°-90°	202.9	1.7
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°	3493.1	29.4
0°-40°	5603.7	47.2
0°-60°	9549.6	80.4
0°-90°	11880.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11880.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4669	4669	4669	4669	4669	
5°	4669	4652	4602	4638	4629	443
15°	4445	4418	4360	4378	4355	1252
25°	4023	3987	3911	3920	3911	1851
35°	3471	3426	3354	3327	3304	2167
45°	2824	2793	2725	2676	2658	2180
55°	2137	2110	2056	2003	1980	1911
65°	1442	1414	1370	1329	1307	1425
75°	754	746	723	696	705	805
85°	184	180	175	162	157	216
90°	0	0	0	0	0	

TEST NUMBER: P931175

CATALOG NUMBER: DFN2DS-SQ4F0-120DS835-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4669.3	4669.3	4669.3	4669.3	4669.3
2.5°	4696.4	4674.0	4624.5	4669.3	4660.7
5°	4669.3	4651.6	4602.1	4637.8	4629.2
7.5°	4637.8	4611.1	4561.6	4597.8	4588.8
10°	4588.8	4557.3	4503.5	4539.2	4525.9
12.5°	4521.1	4494.4	4440.6	4463.0	4453.9
15°	4444.9	4418.2	4359.6	4377.7	4355.3
17.5°	4350.6	4323.9	4265.3	4287.7	4265.3
20°	4247.2	4220.5	4157.7	4171.0	4153.4
22.5°	4144.3	4103.8	4045.2	4045.2	4036.2
25°	4022.8	3987.1	3910.9	3919.5	3910.9
27.5°	3888.0	3856.6	3798.5	3785.1	3762.8
30°	3753.7	3717.5	3650.3	3637.0	3618.9
32.5°	3609.8	3583.2	3511.2	3484.1	3466.0
35°	3470.7	3426.0	3354.0	3326.9	3304.5
37.5°	3313.5	3273.1	3201.1	3169.7	3147.3
40°	3152.1	3115.9	3043.9	3003.9	2985.8
42.5°	2994.9	2958.7	2887.2	2842.0	2815.3
45°	2824.3	2792.9	2725.2	2676.2	2658.1
47.5°	2658.1	2626.6	2554.7	2505.2	2478.5
50°	2482.8	2460.4	2397.5	2334.6	2312.2
52.5°	2312.2	2280.8	2222.7	2173.1	2141.7
55°	2137.4	2110.3	2056.4	2002.6	1980.2
57.5°	1962.1	1939.7	1881.1	1827.3	1809.2
60°	1786.8	1769.2	1706.3	1656.8	1643.4
62.5°	1616.3	1584.8	1540.1	1495.3	1477.2
65°	1441.5	1414.3	1369.5	1329.0	1306.7
67.5°	1261.9	1239.0	1199.0	1167.6	1149.5
70°	1095.6	1077.5	1037.0	1005.6	988.0
72.5°	925.1	907.0	884.6	853.2	839.8
75°	754.1	745.5	722.6	696.0	705.0
77.5°	601.6	583.5	574.5	561.1	547.8
80°	449.2	444.4	435.4	422.1	413.0
82.5°	305.3	305.3	301.1	283.0	283.0
85°	183.9	179.6	175.3	161.5	157.2
87.5°	81.0	71.9	62.9	49.5	44.8
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931175

CATALOG NUMBER: DFN2DS-SQ4F0-120DS835-FLL

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	15.41	17.02	15.77	17.33	17.64	14.96	16.57	15.33	16.89	17.20
	3H	17.16	18.61	17.53	18.94	19.30	16.66	18.12	17.04	18.45	18.81
	4H	17.80	19.17	18.20	19.52	19.89	17.31	18.68	17.71	19.02	19.40
	6H	18.27	19.54	18.68	19.90	20.30	17.77	19.04	18.18	19.40	19.79
	8H	18.41	19.62	18.84	20.01	20.41	17.91	19.12	18.34	19.51	19.91
	12H	18.50	19.66	18.93	20.05	20.47	17.99	19.15	18.42	19.53	19.96
4H	2H	15.97	17.34	16.36	17.68	18.06	15.61	16.98	16.01	17.33	17.71
	3H	17.94	19.09	18.35	19.49	19.89	17.53	18.68	17.94	19.08	19.48
	4H	18.72	19.75	19.15	20.17	20.60	18.29	19.33	18.73	19.74	20.18
	6H	19.31	20.22	19.77	20.66	21.12	18.88	19.79	19.34	20.23	20.68
	8H	19.50	20.35	19.96	20.79	21.26	19.07	19.91	19.53	20.35	20.82
	12H	19.64	20.40	20.12	20.87	21.34	19.18	19.94	19.66	20.42	20.89
8H	4H	18.99	19.84	19.45	20.28	20.75	18.62	19.46	19.08	19.91	20.37
	6H	19.71	20.41	20.20	20.90	21.37	19.32	20.03	19.82	20.52	20.99
	8H	19.96	20.60	20.47	21.10	21.59	19.57	20.20	20.08	20.71	21.20
	12H	20.16	20.72	20.67	21.21	21.77	19.75	20.31	20.26	20.80	21.36
12H	4H	19.02	19.78	19.50	20.25	20.72	18.65	19.41	19.13	19.89	20.36
	6H	19.75	20.38	20.26	20.89	21.38	19.38	20.01	19.89	20.52	21.01
	8H	20.06	20.62	20.57	21.11	21.67	19.69	20.24	20.19	20.74	21.30