

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: FAIL-SAFE

Report Number: P590901

Luminaire Tested: FSR-24-2-LD4-4STD-35-UNV-80-84-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590901
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4STD-35-UNV-80-84-EDD
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

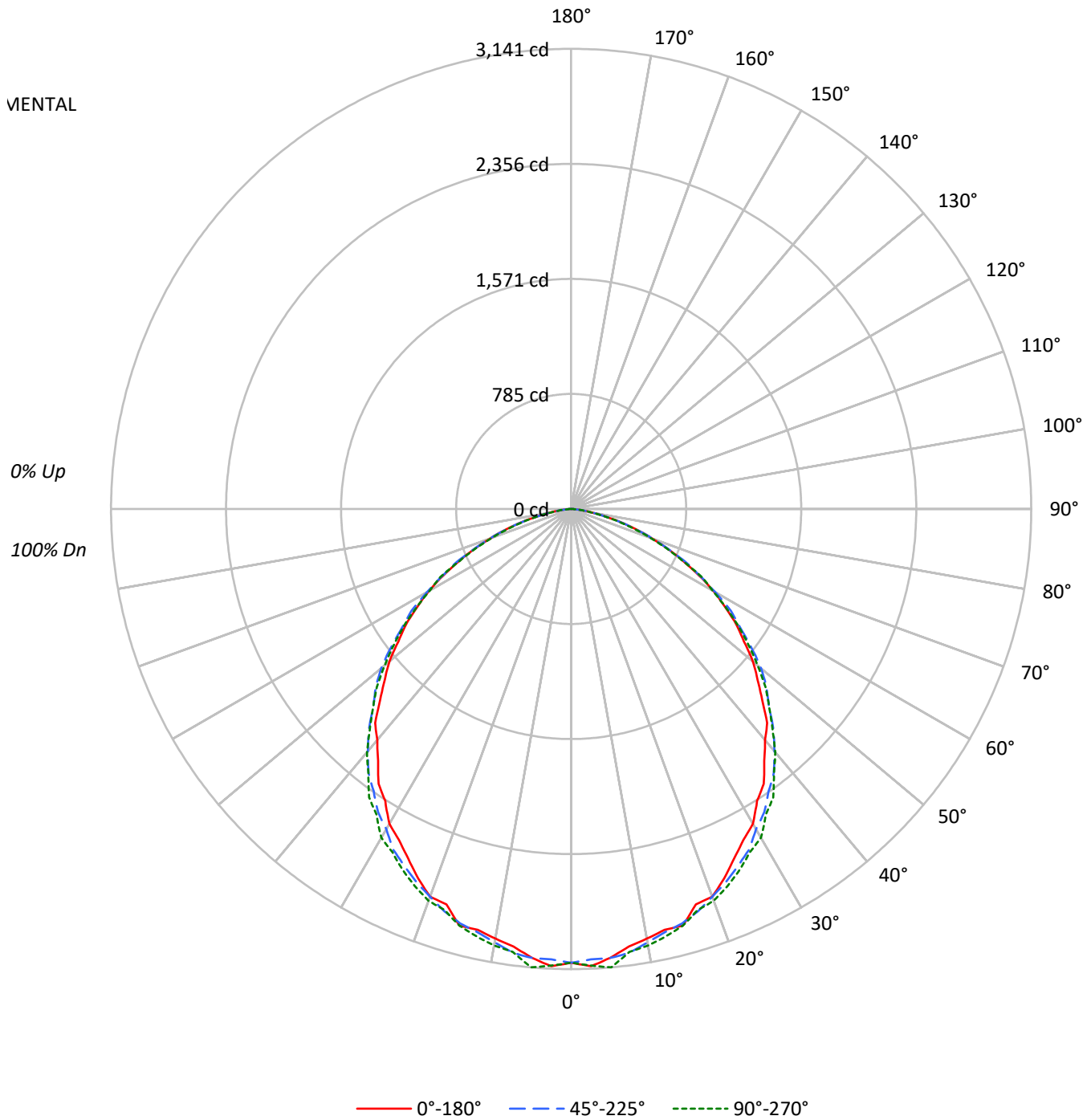
Lumens per Lamp: N/A
Luminaire Lumens: 7805.0 lumens
Efficiency: N/A
Efficacy: 117.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
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										
RC	80									70									50									30									10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0														
RCR																																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100															
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86															
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73															
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62															
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53															
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46															
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41															
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36															
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32															
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29															
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8333	8333	8333
5°	8306	8309	8484
10°	8138	8209	8267
15°	8202	8157	8203
20°	8063	8063	8149
25°	7815	7986	8074
30°	7708	7843	8052
35°	7526	7724	7897
40°	7234	7582	7616
45°	7015	7265	7275
50°	6785	7091	6955
55°	6465	6590	6543
60°	6045	6105	5996
65°	5390	5528	5352
70°	4625	4640	4511
75°	3663	3655	3513
80°	2453	2385	2292
85°	1334	1321	1235

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7452 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	291.3	3.7
10°-20°	825.6	10.6
20°-30°	1236.9	15.8
30°-40°	1466.0	18.8
40°-50°	1468.7	18.8
50°-60°	1246.7	16.0
60°-70°	840.5	10.8
70°-80°	369.3	4.7
80°-90°	60.0	0.8
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°	2353.8	30.2
0°-40°	3819.8	48.9
0°-60°	6535.1	83.7
0°-90°	7805.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7805.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3097	3097	3097	3097	3097	
5°	3075	3068	3076	3067	3141	290
15°	2944	2910	2928	2943	2944	820
25°	2632	2647	2690	2725	2719	1217
35°	2291	2298	2351	2406	2404	1423
45°	1843	1878	1909	1958	1912	1426
55°	1378	1369	1405	1395	1395	1226
65°	846	835	868	835	840	842
75°	352	345	352	327	338	378
85°	43	42	43	42	40	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3096.8	3096.8	3096.8	3096.8	3096.8
2.5°	3123.6	3100.0	3078.0	3103.6	3119.2
5°	3074.8	3067.6	3076.0	3066.8	3140.8
7.5°	3011.7	3039.2	3055.2	3045.2	3049.6
10°	2978.1	2968.5	3004.1	3028.9	3025.3
12.5°	2942.1	2956.5	2958.5	2985.3	2987.7
15°	2944.1	2910.1	2928.1	2943.3	2944.5
17.5°	2829.7	2866.5	2878.9	2913.7	2870.5
20°	2815.7	2788.9	2815.7	2851.3	2845.7
22.5°	2729.8	2699.8	2757.4	2788.9	2786.9
25°	2632.2	2646.6	2689.8	2725.0	2719.4
27.5°	2546.6	2563.4	2625.0	2673.4	2642.2
30°	2480.7	2472.3	2524.2	2567.4	2591.4
32.5°	2362.7	2393.1	2453.9	2496.7	2473.9
35°	2291.1	2297.9	2351.1	2405.5	2403.9
37.5°	2166.0	2197.6	2272.3	2287.5	2273.5
40°	2059.2	2090.8	2158.4	2174.8	2168.0
42.5°	1980.4	1986.0	2044.0	2062.8	2032.8
45°	1843.3	1877.7	1908.9	1958.1	1911.7
47.5°	1726.5	1742.5	1809.7	1822.9	1798.5
50°	1620.6	1626.2	1693.8	1677.4	1661.4
52.5°	1487.4	1511.0	1549.0	1545.8	1527.0
55°	1377.9	1368.7	1404.7	1395.1	1394.7
57.5°	1246.3	1262.3	1291.9	1276.7	1252.3
60°	1123.2	1123.6	1134.4	1117.2	1114.0
62.5°	986.0	990.8	993.2	972.0	1006.4
65°	846.5	835.3	868.1	834.9	840.5
67.5°	718.1	723.7	720.5	699.7	707.7
70°	587.8	595.0	589.8	566.2	573.4
72.5°	468.6	459.8	465.4	435.8	449.4
75°	352.3	345.1	351.5	326.7	337.9
77.5°	239.9	245.5	241.5	228.3	235.9
80°	158.3	153.9	153.9	146.3	147.9
82.5°	92.4	88.0	86.8	84.4	88.0
85°	43.2	42.0	42.8	41.6	40.0
87.5°	15.6	16.0	16.0	15.2	14.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)