

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: P561699

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-93-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561699
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-2LO-50-UNV-93-85-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5004.0 lumens
Efficiency: N/A
Efficacy: 106.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

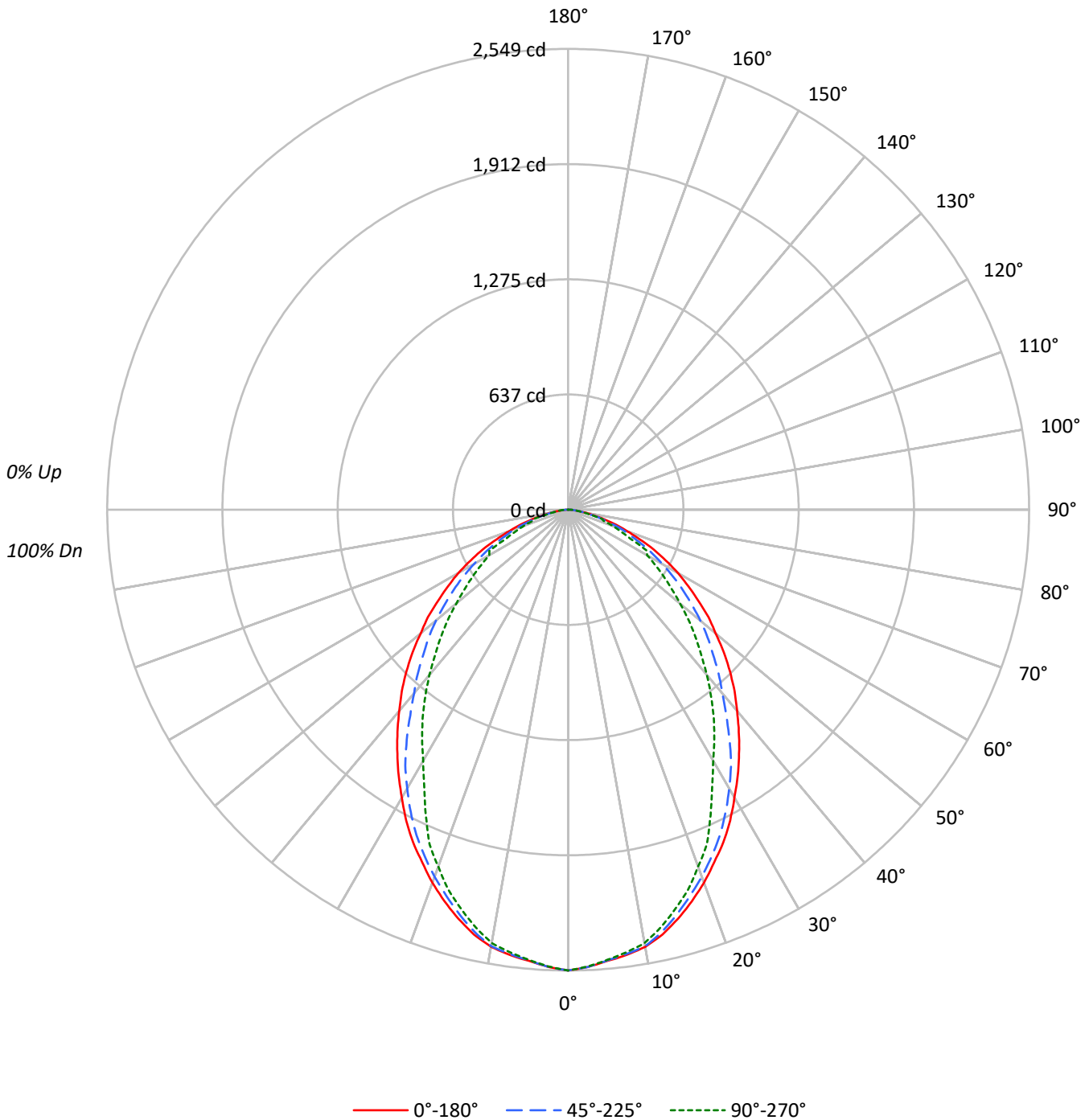
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89					87				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77					75				
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67					65				
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58					56				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52					50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46					44				
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42					40				
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38					36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34					33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32					30				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6859	6859	6859
5°	6766	6758	6750
10°	6707	6699	6651
15°	6527	6461	6371
20°	6287	6186	6017
25°	6028	5897	5530
30°	5714	5531	4981
35°	5412	5111	4608
40°	5103	4658	4192
45°	4811	4306	3790
50°	4454	3997	3380
55°	4120	3622	3027
60°	3774	3235	2712
65°	3321	2833	2402
70°	2736	2481	2040
75°	2175	1900	1991
80°	1461	1370	1278
85°	911	1093	1275

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4811 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	237.3	4.7
10°-20°	651.2	13.0
20°-30°	901.5	18.0
30°-40°	961.3	19.2
40°-50°	877.0	17.5
50°-60°	687.0	13.7
60°-70°	447.8	8.9
70°-80°	198.4	4.0
80°-90°	42.6	0.9
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°	1790.0	35.8
0°-40°	2751.3	55.0
0°-60°	4315.3	86.2
0°-90°	5004.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5004.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2549	2549	2549	2549	2549	
5°	2505	2502	2502	2499	2499	238
15°	2343	2343	2319	2296	2287	659
25°	2030	2018	1986	1915	1862	932
35°	1647	1636	1556	1438	1403	1030
45°	1264	1238	1132	1037	996	974
55°	878	852	772	681	645	788
65°	522	492	445	454	377	514
75°	209	194	183	174	192	224
85°	30	32	35	38	41	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2549.0	2549.0	2549.0	2549.0	2549.0
2.5°	2531.3	2531.3	2531.3	2528.3	2528.3
5°	2504.8	2501.8	2501.8	2498.9	2498.9
7.5°	2484.1	2481.2	2478.2	2475.3	2469.4
10°	2454.7	2454.7	2451.7	2437.0	2434.0
12.5°	2407.5	2404.6	2392.8	2372.2	2366.3
15°	2342.7	2342.7	2319.1	2295.5	2286.7
17.5°	2272.0	2269.0	2239.6	2216.0	2204.2
20°	2195.4	2189.5	2160.0	2121.7	2101.1
22.5°	2109.9	2109.9	2074.5	2024.4	2003.8
25°	2030.3	2018.5	1986.1	1915.4	1862.4
27.5°	1939.0	1921.3	1885.9	1785.8	1723.9
30°	1838.8	1830.0	1779.9	1650.2	1603.1
32.5°	1744.5	1729.8	1676.7	1541.2	1502.9
35°	1647.3	1635.5	1555.9	1438.0	1402.7
37.5°	1550.0	1535.3	1435.1	1340.8	1296.6
40°	1452.8	1435.1	1326.1	1240.6	1193.4
42.5°	1361.4	1337.8	1231.8	1140.4	1087.4
45°	1264.2	1237.7	1131.6	1037.3	996.0
47.5°	1166.9	1143.4	1046.1	948.9	901.7
50°	1063.8	1043.2	954.8	857.5	807.4
52.5°	978.3	945.9	860.5	763.2	722.0
55°	878.1	851.6	772.1	680.7	645.3
57.5°	786.8	760.3	686.6	601.1	571.7
60°	701.3	663.0	601.1	527.5	503.9
62.5°	607.0	577.6	524.5	462.6	492.1
65°	521.6	492.1	445.0	453.8	377.2
67.5°	427.3	412.6	371.3	330.0	318.3
70°	347.7	330.0	315.3	271.1	259.3
72.5°	277.0	259.3	238.7	215.1	206.3
75°	209.2	194.5	182.7	173.9	191.5
77.5°	144.4	138.5	129.7	120.8	117.9
80°	94.3	91.4	88.4	85.5	82.5
82.5°	56.0	56.0	56.0	56.0	56.0
85°	29.5	32.4	35.4	38.3	41.3
87.5°	17.7	17.7	20.6	23.6	26.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)