

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: P561709

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561709
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-93-96-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5060.0 lumens
Efficiency: N/A
Efficacy: 108.1 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

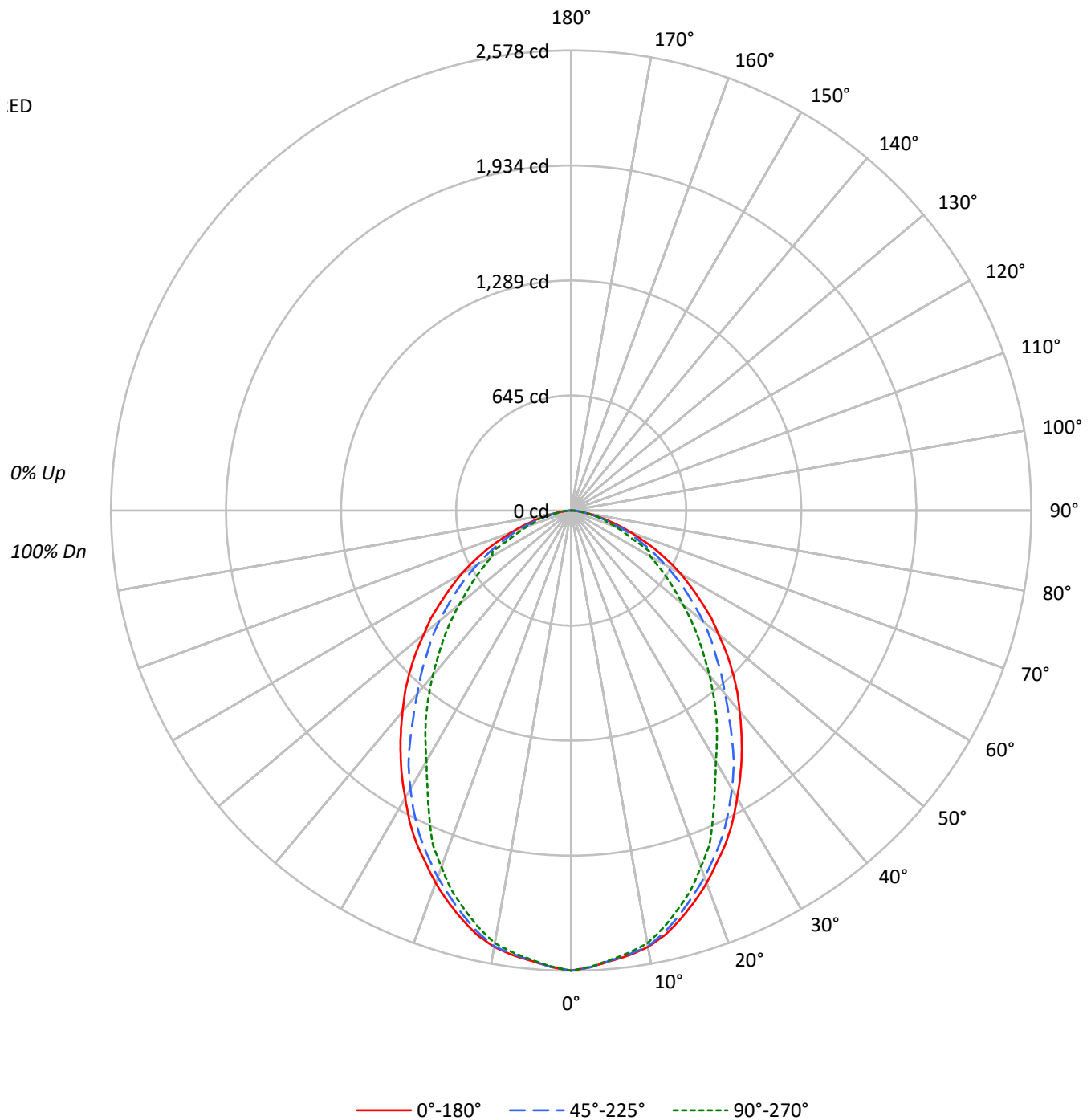
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6936	6936	6936
5°	6842	6834	6826
10°	6782	6774	6725
15°	6600	6533	6442
20°	6357	6255	6084
25°	6096	5963	5592
30°	5778	5592	5037
35°	5472	5168	4660
40°	5160	4710	4239
45°	4865	4354	3833
50°	4503	4042	3418
55°	4166	3663	3062
60°	3817	3272	2742
65°	3358	2865	2429
70°	2766	2508	2063
75°	2200	1920	2014
80°	1478	1385	1292
85°	920	1105	1288

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4865 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	239.9	4.7
10°-20°	658.5	13.0
20°-30°	911.6	18.0
30°-40°	972.0	19.2
40°-50°	886.8	17.5
50°-60°	694.7	13.7
60°-70°	452.8	8.9
70°-80°	200.6	4.0
80°-90°	43.1	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°	1810.0	35.8
0°-40°	2782.0	55.0
0°-60°	4363.5	86.2
0°-90°	5060.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5060.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2578	2578	2578	2578	2578	
5°	2533	2530	2530	2527	2527	240
15°	2369	2369	2345	2321	2312	666
25°	2053	2041	2008	1937	1883	943
35°	1666	1654	1573	1454	1418	1041
45°	1278	1252	1144	1049	1007	985
55°	888	861	781	688	653	796
65°	527	498	450	459	381	520
75°	212	197	185	176	194	227
85°	30	33	36	39	42	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2577.5	2577.5	2577.5	2577.5	2577.5
2.5°	2559.6	2559.6	2559.6	2556.6	2556.6
5°	2532.8	2529.8	2529.8	2526.8	2526.8
7.5°	2511.9	2509.0	2506.0	2503.0	2497.0
10°	2482.1	2482.1	2479.2	2464.3	2461.3
12.5°	2434.5	2431.5	2419.6	2398.7	2392.8
15°	2368.9	2368.9	2345.1	2321.2	2312.3
17.5°	2297.4	2294.4	2264.6	2240.8	2228.9
20°	2219.9	2214.0	2184.2	2145.4	2124.6
22.5°	2133.5	2133.5	2097.8	2047.1	2026.2
25°	2053.1	2041.1	2008.4	1936.8	1883.2
27.5°	1960.7	1942.8	1907.0	1805.7	1743.2
30°	1859.4	1850.4	1799.8	1668.7	1621.0
32.5°	1764.0	1749.1	1695.5	1558.4	1519.7
35°	1665.7	1653.8	1573.3	1454.1	1418.4
37.5°	1567.4	1552.5	1451.1	1355.8	1311.1
40°	1469.0	1451.1	1340.9	1254.5	1206.8
42.5°	1376.7	1352.8	1245.5	1153.2	1099.5
45°	1278.3	1251.5	1144.2	1048.9	1007.2
47.5°	1180.0	1156.1	1057.8	959.5	911.8
50°	1075.7	1054.8	965.4	867.1	816.5
52.5°	989.3	956.5	870.1	771.8	730.0
55°	888.0	861.2	780.7	688.3	652.6
57.5°	795.6	768.8	694.3	607.9	578.1
60°	709.2	670.4	607.9	533.4	509.5
62.5°	613.8	584.0	530.4	467.8	497.6
65°	527.4	497.6	449.9	458.9	381.4
67.5°	432.1	417.2	375.5	333.7	321.8
70°	351.6	333.7	318.8	274.1	262.2
72.5°	280.1	262.2	241.4	217.5	208.6
75°	211.6	196.7	184.7	175.8	193.7
77.5°	146.0	140.0	131.1	122.2	119.2
80°	95.4	92.4	89.4	86.4	83.4
82.5°	56.6	56.6	56.6	56.6	56.6
85°	29.8	32.8	35.8	38.7	41.7
87.5°	17.9	17.9	20.9	23.8	26.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)