

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: P561199

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561199
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-LD4-1STD-35-UNV-93-97-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3181.0 lumens
Efficiency: N/A
Efficacy: 95.5 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

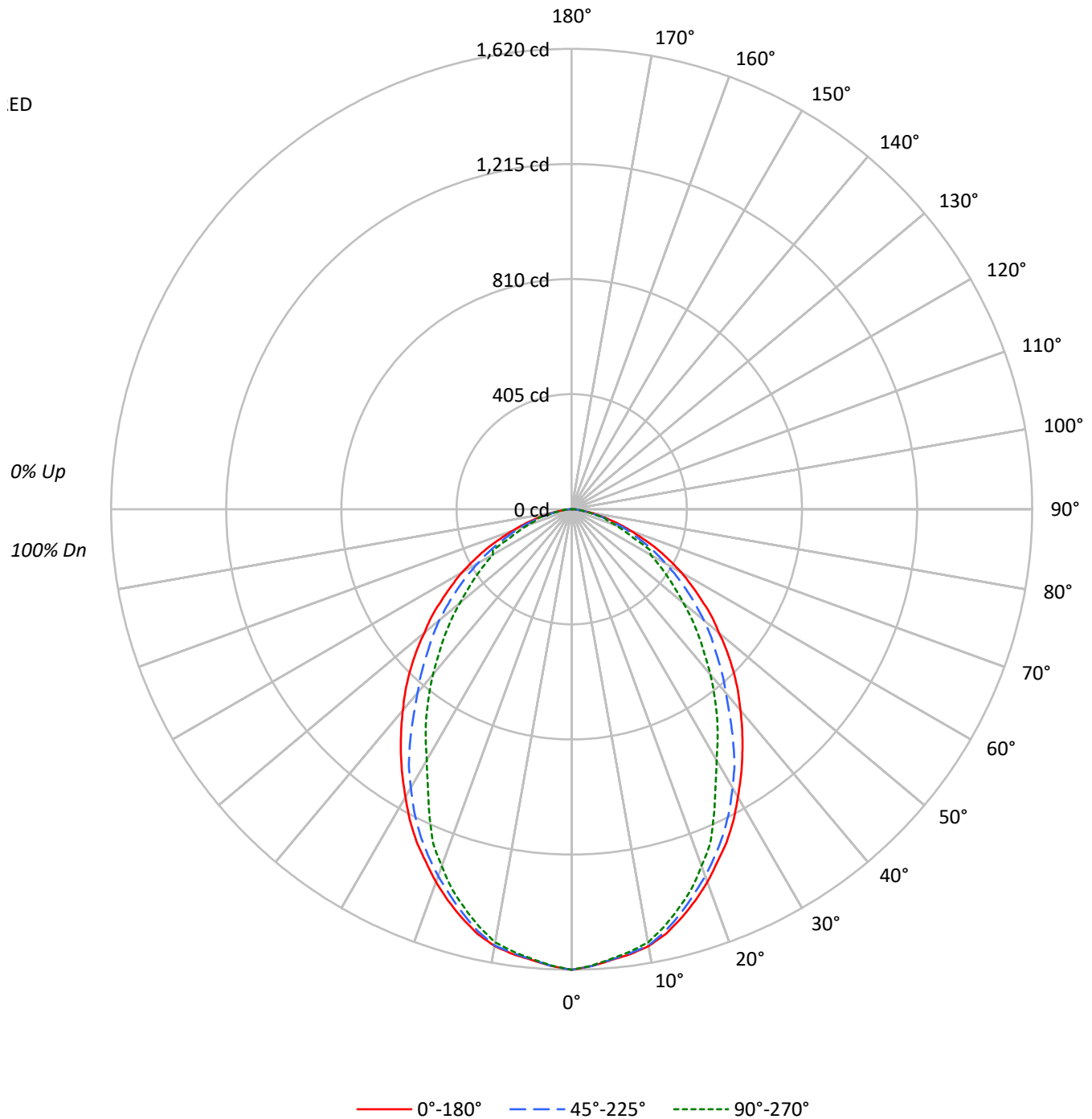
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	4360	4360	4360
5°	4301	4296	4291
10°	4264	4259	4228
15°	4149	4107	4050
20°	3997	3932	3825
25°	3832	3749	3515
30°	3632	3516	3166
35°	3440	3249	2929
40°	3244	2961	2665
45°	3058	2737	2410
50°	2831	2541	2149
55°	2619	2303	1924
60°	2399	2056	1724
65°	2111	1801	1527
70°	1739	1577	1297
75°	1383	1207	1266
80°	928	871	814
85°	577	695	809

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3058 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.8	4.7
10°-20°	414.0	13.0
20°-30°	573.1	18.0
30°-40°	611.1	19.2
40°-50°	557.5	17.5
50°-60°	436.7	13.7
60°-70°	284.6	8.9
70°-80°	126.1	4.0
80°-90°	27.1	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°	1137.9	35.8
0°-40°	1748.9	55.0
0°-60°	2743.2	86.2
0°-90°	3181.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3181.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1620	1620	1620	1620	1620	
5°	1592	1590	1590	1588	1588	151
15°	1489	1489	1474	1459	1454	419
25°	1291	1283	1263	1218	1184	593
35°	1047	1040	989	914	892	655
45°	804	787	719	659	633	619
55°	558	541	491	433	410	501
65°	332	313	283	288	240	327
75°	133	124	116	110	122	143
85°	19	21	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1620.4	1620.4	1620.4	1620.4	1620.4
2.5°	1609.1	1609.1	1609.1	1607.2	1607.2
5°	1592.3	1590.4	1590.4	1588.5	1588.5
7.5°	1579.1	1577.3	1575.4	1573.5	1569.8
10°	1560.4	1560.4	1558.5	1549.2	1547.3
12.5°	1530.4	1528.6	1521.1	1508.0	1504.2
15°	1489.2	1489.2	1474.2	1459.3	1453.6
17.5°	1444.3	1442.4	1423.7	1408.7	1401.2
20°	1395.6	1391.8	1373.1	1348.7	1335.6
22.5°	1341.2	1341.2	1318.8	1286.9	1273.8
25°	1290.7	1283.2	1262.6	1217.6	1183.9
27.5°	1232.6	1221.4	1198.9	1135.2	1095.8
30°	1168.9	1163.3	1131.4	1049.0	1019.0
32.5°	1109.0	1099.6	1065.9	979.7	955.4
35°	1047.1	1039.7	989.1	914.1	891.7
37.5°	985.3	976.0	912.3	852.3	824.2
40°	923.5	912.3	843.0	788.6	758.7
42.5°	865.4	850.5	783.0	724.9	691.2
45°	803.6	786.8	719.3	659.4	633.2
47.5°	741.8	726.8	665.0	603.2	573.2
50°	676.2	663.1	606.9	545.1	513.3
52.5°	621.9	601.3	547.0	485.2	458.9
55°	558.2	541.4	490.8	432.7	410.2
57.5°	500.2	483.3	436.5	382.1	363.4
60°	445.8	421.5	382.1	335.3	320.3
62.5°	385.9	367.2	333.4	294.1	312.8
65°	331.6	312.8	282.9	288.5	239.8
67.5°	271.6	262.3	236.0	209.8	202.3
70°	221.0	209.8	200.4	172.3	164.8
72.5°	176.1	164.8	151.7	136.7	131.1
75°	133.0	123.6	116.1	110.5	121.8
77.5°	91.8	88.0	82.4	76.8	74.9
80°	59.9	58.1	56.2	54.3	52.5
82.5°	35.6	35.6	35.6	35.6	35.6
85°	18.7	20.6	22.5	24.4	26.2
87.5°	11.2	11.2	13.1	15.0	16.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)