

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: P561195

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561195
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-93-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 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: 3336.0 lumens
Efficiency: N/A
Efficacy: 100.2 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

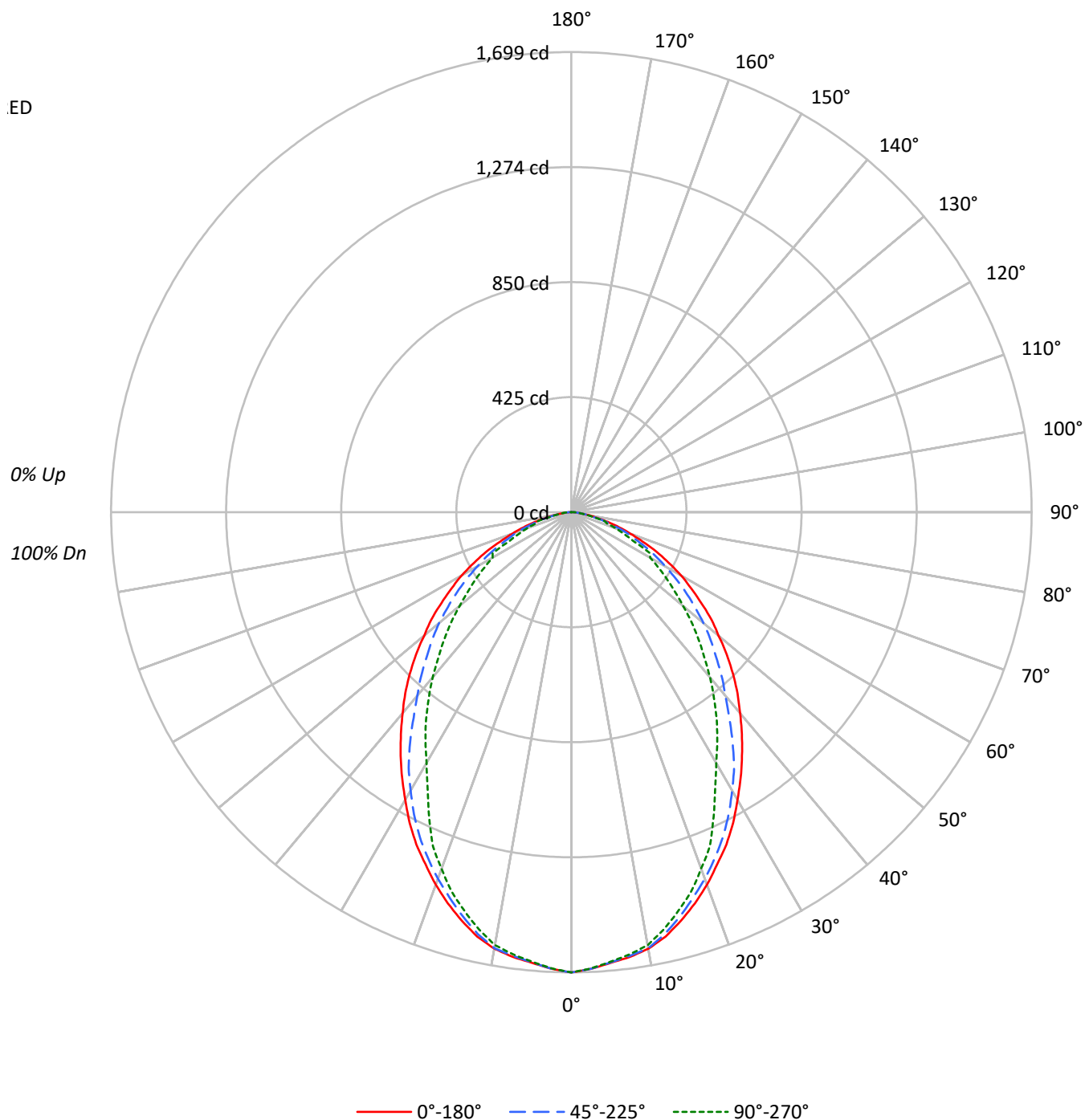
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10
RCR																					
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102
1	110	106	102	99		108	104	100	97		100	97	94		96	94	91		92	90	89
2	101	94	88	83		99	92	87	82		89	84	80		86	82	78		83	79	77
3	93	84	77	71		91	82	76	70		79	74	69		77	72	68		74	70	67
4	86	75	67	61		84	74	66	61		72	65	60		69	64	59		67	62	58
5	80	68	60	54		78	67	59	53		65	58	53		63	57	52		61	56	52
6	74	62	53	48		72	61	53	47		59	52	47		57	51	47		56	50	46
7	69	56	48	43		67	56	48	42		54	47	42		53	46	42		51	46	42
8	65	52	44	38		63	51	44	38		50	43	38		49	42	38		48	42	38
9	61	48	40	35		59	47	40	35		46	39	35		45	39	34		44	38	34
10	57	44	37	32		56	44	37	32		43	36	32		42	36	32		41	36	32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4573	4573	4573
5°	4511	4505	4500
10°	4471	4466	4434
15°	4351	4307	4247
20°	4191	4124	4011
25°	4019	3931	3687
30°	3809	3687	3321
35°	3608	3408	3072
40°	3402	3105	2795
45°	3207	2871	2527
50°	2969	2665	2254
55°	2746	2415	2018
60°	2517	2157	1808
65°	2214	1889	1601
70°	1824	1654	1360
75°	1450	1266	1328
80°	975	913	852
85°	605	729	849

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3207 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.2	4.7
10°-20°	434.1	13.0
20°-30°	601.0	18.0
30°-40°	640.9	19.2
40°-50°	584.6	17.5
50°-60°	458.0	13.7
60°-70°	298.5	8.9
70°-80°	132.3	4.0
80°-90°	28.4	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°	1193.3	35.8
0°-40°	1834.2	55.0
0°-60°	2876.8	86.2
0°-90°	3336.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3336.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1699	1699	1699	1699	1699	
5°	1670	1668	1668	1666	1666	159
15°	1562	1562	1546	1530	1524	439
25°	1354	1346	1324	1277	1242	621
35°	1098	1090	1037	959	935	687
45°	843	825	754	692	664	649
55°	585	568	515	454	430	525
65°	348	328	297	302	252	343
75°	140	130	122	116	128	150
85°	20	22	24	26	28	27
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1699.3	1699.3	1699.3	1699.3	1699.3
2.5°	1687.5	1687.5	1687.5	1685.6	1685.6
5°	1669.8	1667.9	1667.9	1665.9	1665.9
7.5°	1656.1	1654.1	1652.2	1650.2	1646.3
10°	1636.4	1636.4	1634.5	1624.7	1622.7
12.5°	1605.0	1603.1	1595.2	1581.4	1577.5
15°	1561.8	1561.8	1546.1	1530.4	1524.5
17.5°	1514.6	1512.7	1493.0	1477.3	1469.5
20°	1463.6	1459.6	1440.0	1414.5	1400.7
22.5°	1406.6	1406.6	1383.0	1349.6	1335.9
25°	1353.6	1345.7	1324.1	1276.9	1241.6
27.5°	1292.7	1280.9	1257.3	1190.5	1149.2
30°	1225.9	1220.0	1186.6	1100.1	1068.7
32.5°	1163.0	1153.2	1117.8	1027.4	1001.9
35°	1098.2	1090.3	1037.3	958.7	935.1
37.5°	1033.3	1023.5	956.7	893.9	864.4
40°	968.5	956.7	884.0	827.1	795.6
42.5°	907.6	891.9	821.2	760.3	724.9
45°	842.8	825.1	754.4	691.5	664.0
47.5°	778.0	762.2	697.4	632.6	601.1
50°	709.2	695.4	636.5	571.7	538.3
52.5°	652.2	630.6	573.6	508.8	481.3
55°	585.4	567.7	514.7	453.8	430.2
57.5°	524.5	506.8	457.7	400.8	381.1
60°	467.6	442.0	400.8	351.6	335.9
62.5°	404.7	385.0	349.7	308.4	328.1
65°	347.7	328.1	296.6	302.5	251.5
67.5°	284.9	275.0	247.5	220.0	212.2
70°	231.8	220.0	210.2	180.7	172.9
72.5°	184.7	172.9	159.1	143.4	137.5
75°	139.5	129.7	121.8	115.9	127.7
77.5°	96.3	92.3	86.4	80.5	78.6
80°	62.9	60.9	58.9	57.0	55.0
82.5°	37.3	37.3	37.3	37.3	37.3
85°	19.6	21.6	23.6	25.5	27.5
87.5°	11.8	11.8	13.8	15.7	17.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)