

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: P561165

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561165
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-81-96-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3128.0 lumens
Efficiency: N/A
Efficacy: 93.9 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

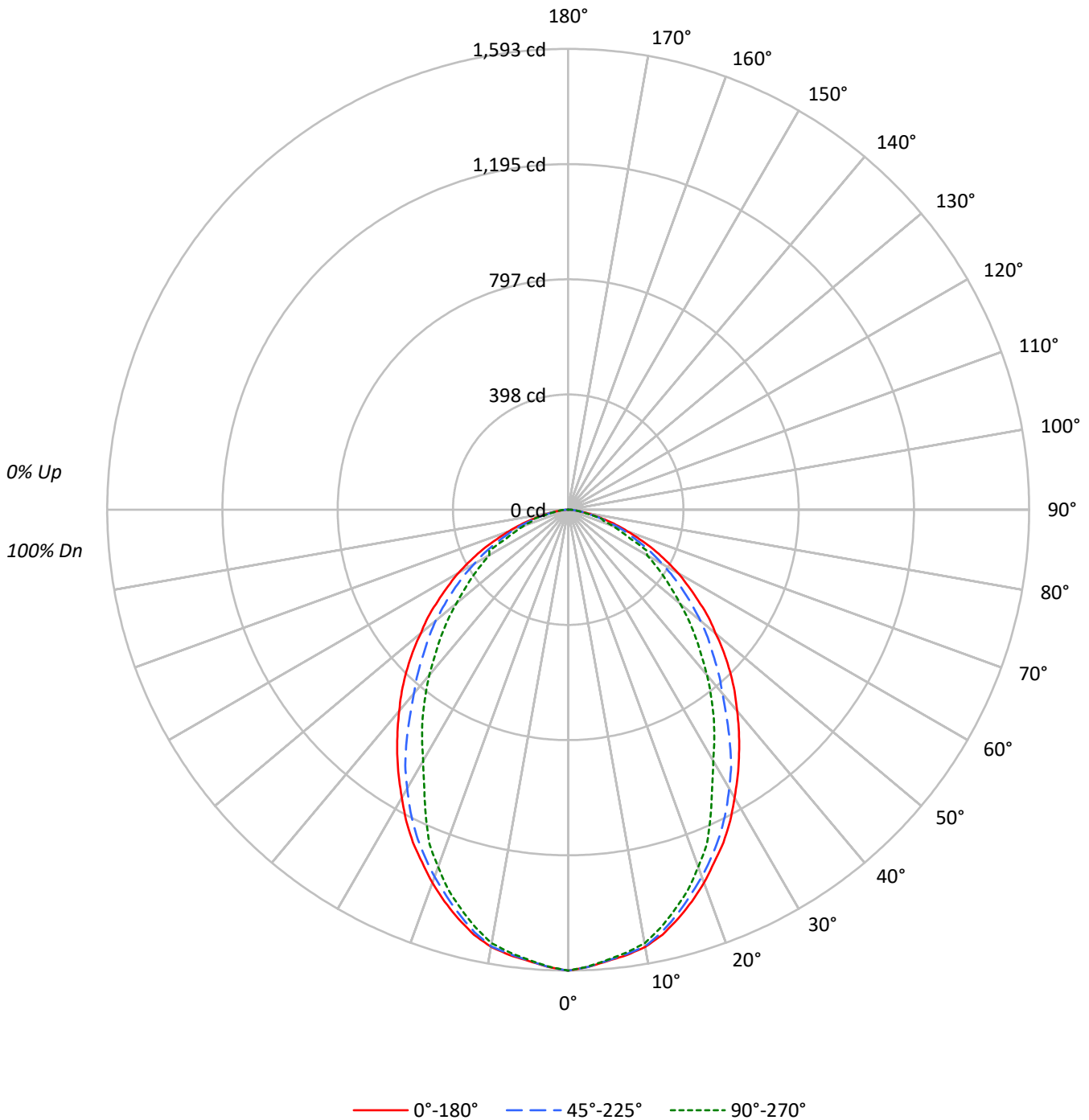
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4288	4288	4288
5°	4229	4224	4219
10°	4193	4188	4157
15°	4080	4039	3982
20°	3930	3867	3761
25°	3768	3686	3457
30°	3572	3457	3114
35°	3383	3195	2880
40°	3190	2912	2621
45°	3007	2692	2369
50°	2784	2498	2113
55°	2575	2264	1893
60°	2359	2023	1695
65°	2076	1771	1501
70°	1710	1551	1275
75°	1360	1187	1245
80°	913	857	800
85°	568	682	797

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3007 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.3	4.7
10°-20°	407.0	13.0
20°-30°	563.5	18.0
30°-40°	600.9	19.2
40°-50°	548.2	17.5
50°-60°	429.5	13.7
60°-70°	279.9	8.9
70°-80°	124.0	4.0
80°-90°	26.6	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°	1118.9	35.8
0°-40°	1719.8	55.0
0°-60°	2697.5	86.2
0°-90°	3128.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3128.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1593	1593	1593	1593	1593	
5°	1566	1564	1564	1562	1562	149
15°	1464	1464	1450	1435	1429	412
25°	1269	1262	1242	1197	1164	583
35°	1030	1022	973	899	877	644
45°	790	774	707	648	623	609
55°	549	532	483	426	403	492
65°	326	308	278	284	236	321
75°	131	122	114	109	120	140
85°	18	20	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°	1593.4	1593.4	1593.4	1593.4	1593.4
2.5°	1582.3	1582.3	1582.3	1580.5	1580.5
5°	1565.7	1563.9	1563.9	1562.0	1562.0
7.5°	1552.8	1551.0	1549.2	1547.3	1543.6
10°	1534.4	1534.4	1532.6	1523.4	1521.5
12.5°	1504.9	1503.1	1495.7	1482.8	1479.2
15°	1464.4	1464.4	1449.7	1434.9	1429.4
17.5°	1420.2	1418.4	1399.9	1385.2	1377.8
20°	1372.3	1368.6	1350.2	1326.3	1313.4
22.5°	1318.9	1318.9	1296.8	1265.5	1252.6
25°	1269.2	1261.8	1241.5	1197.3	1164.2
27.5°	1212.1	1201.0	1178.9	1116.3	1077.6
30°	1149.4	1143.9	1112.6	1031.5	1002.1
32.5°	1090.5	1081.3	1048.1	963.4	939.4
35°	1029.7	1022.3	972.6	898.9	876.8
37.5°	968.9	959.7	897.1	838.1	810.5
40°	908.1	897.1	828.9	775.5	746.0
42.5°	851.0	836.3	770.0	712.9	679.7
45°	790.2	773.7	707.3	648.4	622.6
47.5°	729.4	714.7	653.9	593.1	563.7
50°	665.0	652.1	596.8	536.0	504.7
52.5°	611.6	591.3	537.9	477.1	451.3
55°	548.9	532.3	482.6	425.5	403.4
57.5°	491.8	475.2	429.2	375.8	357.4
60°	438.4	414.5	375.8	329.7	315.0
62.5°	379.5	361.0	327.9	289.2	307.6
65°	326.0	307.6	278.1	283.7	235.8
67.5°	267.1	257.9	232.1	206.3	198.9
70°	217.4	206.3	197.1	169.5	162.1
72.5°	173.2	162.1	149.2	134.5	128.9
75°	130.8	121.6	114.2	108.7	119.7
77.5°	90.3	86.6	81.0	75.5	73.7
80°	58.9	57.1	55.3	53.4	51.6
82.5°	35.0	35.0	35.0	35.0	35.0
85°	18.4	20.3	22.1	23.9	25.8
87.5°	11.1	11.1	12.9	14.7	16.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)