

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: P562219

Luminaire Tested: FSR-24-4-LD4-1LO-40-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562219
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-24-4-LD4-1LO-40-UNV-93-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2956.0 lumens
Efficiency: N/A
Efficacy: 126.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

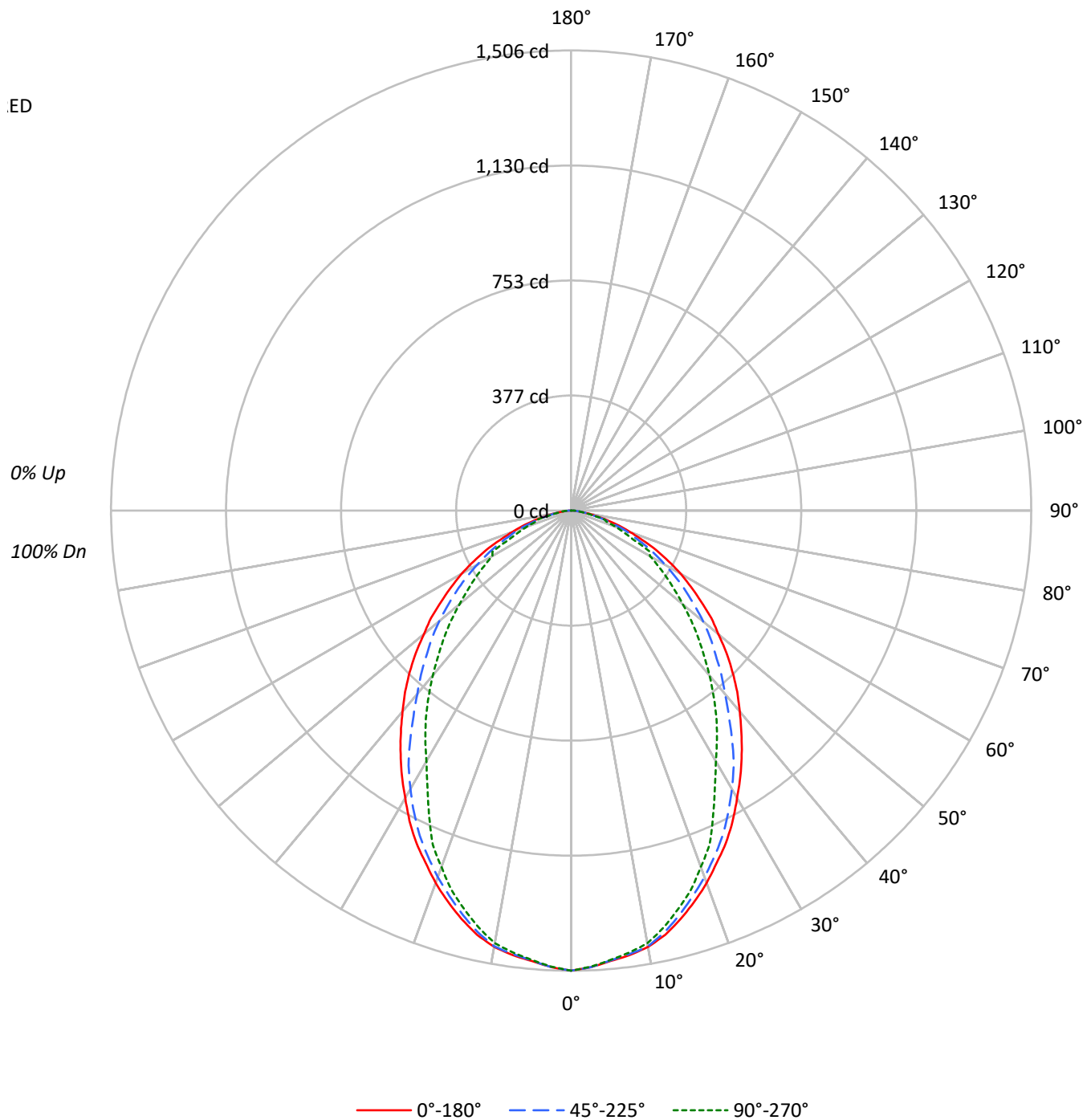
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2026	2026	2026
5°	1998	1996	1994
10°	1981	1979	1965
15°	1928	1908	1882
20°	1857	1827	1777
25°	1781	1742	1633
30°	1688	1633	1471
35°	1598	1510	1361
40°	1507	1376	1238
45°	1421	1272	1120
50°	1315	1181	998
55°	1217	1070	894
60°	1115	956	801
65°	981	837	709
70°	808	733	603
75°	643	561	588
80°	432	404	377
85°	269	323	377

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1421 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.2	4.7
10°-20°	384.7	13.0
20°-30°	532.6	18.0
30°-40°	567.8	19.2
40°-50°	518.0	17.5
50°-60°	405.9	13.7
60°-70°	264.5	8.9
70°-80°	117.2	4.0
80°-90°	25.2	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°	1057.4	35.8
0°-40°	1625.2	55.0
0°-60°	2549.1	86.2
0°-90°	2956.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2956.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1506	1506	1506	1506	1506	
5°	1480	1478	1478	1476	1476	140
15°	1384	1384	1370	1356	1351	389
25°	1199	1192	1173	1132	1100	551
35°	973	966	919	850	829	608
45°	747	731	668	613	588	575
55°	519	503	456	402	381	465
65°	308	291	263	268	223	304
75°	124	115	108	103	113	132
85°	17	19	21	23	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1505.7	1505.7	1505.7	1505.7	1505.7
2.5°	1495.3	1495.3	1495.3	1493.6	1493.6
5°	1479.6	1477.9	1477.9	1476.2	1476.2
7.5°	1467.5	1465.7	1464.0	1462.2	1458.7
10°	1450.0	1450.0	1448.3	1439.6	1437.9
12.5°	1422.2	1420.5	1413.5	1401.3	1397.8
15°	1383.9	1383.9	1370.0	1356.0	1350.8
17.5°	1342.1	1340.4	1323.0	1309.0	1302.1
20°	1296.9	1293.4	1276.0	1253.3	1241.2
22.5°	1246.4	1246.4	1225.5	1195.9	1183.7
25°	1199.4	1192.4	1173.3	1131.5	1100.2
27.5°	1145.4	1135.0	1114.1	1054.9	1018.3
30°	1086.2	1081.0	1051.4	974.8	947.0
32.5°	1030.5	1021.8	990.5	910.4	887.8
35°	973.1	966.1	919.1	849.5	828.6
37.5°	915.6	906.9	847.7	792.0	765.9
40°	858.2	847.7	783.3	732.9	705.0
42.5°	804.2	790.3	727.6	673.7	642.3
45°	746.8	731.1	668.4	612.7	588.4
47.5°	689.3	675.4	618.0	560.5	532.7
50°	628.4	616.2	564.0	506.6	477.0
52.5°	577.9	558.8	508.3	450.9	426.5
55°	518.7	503.1	456.1	402.1	381.2
57.5°	464.8	449.1	405.6	355.1	337.7
60°	414.3	391.7	355.1	311.6	297.7
62.5°	358.6	341.2	309.9	273.3	290.7
65°	308.1	290.7	262.9	268.1	222.8
67.5°	252.4	243.7	219.3	195.0	188.0
70°	205.4	195.0	186.3	160.1	153.2
72.5°	163.6	153.2	141.0	127.1	121.9
75°	123.6	114.9	107.9	102.7	113.1
77.5°	85.3	81.8	76.6	71.4	69.6
80°	55.7	54.0	52.2	50.5	48.7
82.5°	33.1	33.1	33.1	33.1	33.1
85°	17.4	19.1	20.9	22.6	24.4
87.5°	10.4	10.4	12.2	13.9	15.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)