

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: P561150

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-80-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561150
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-80-97-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2656.0 lumens
Efficiency: N/A
Efficacy: 79.8 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

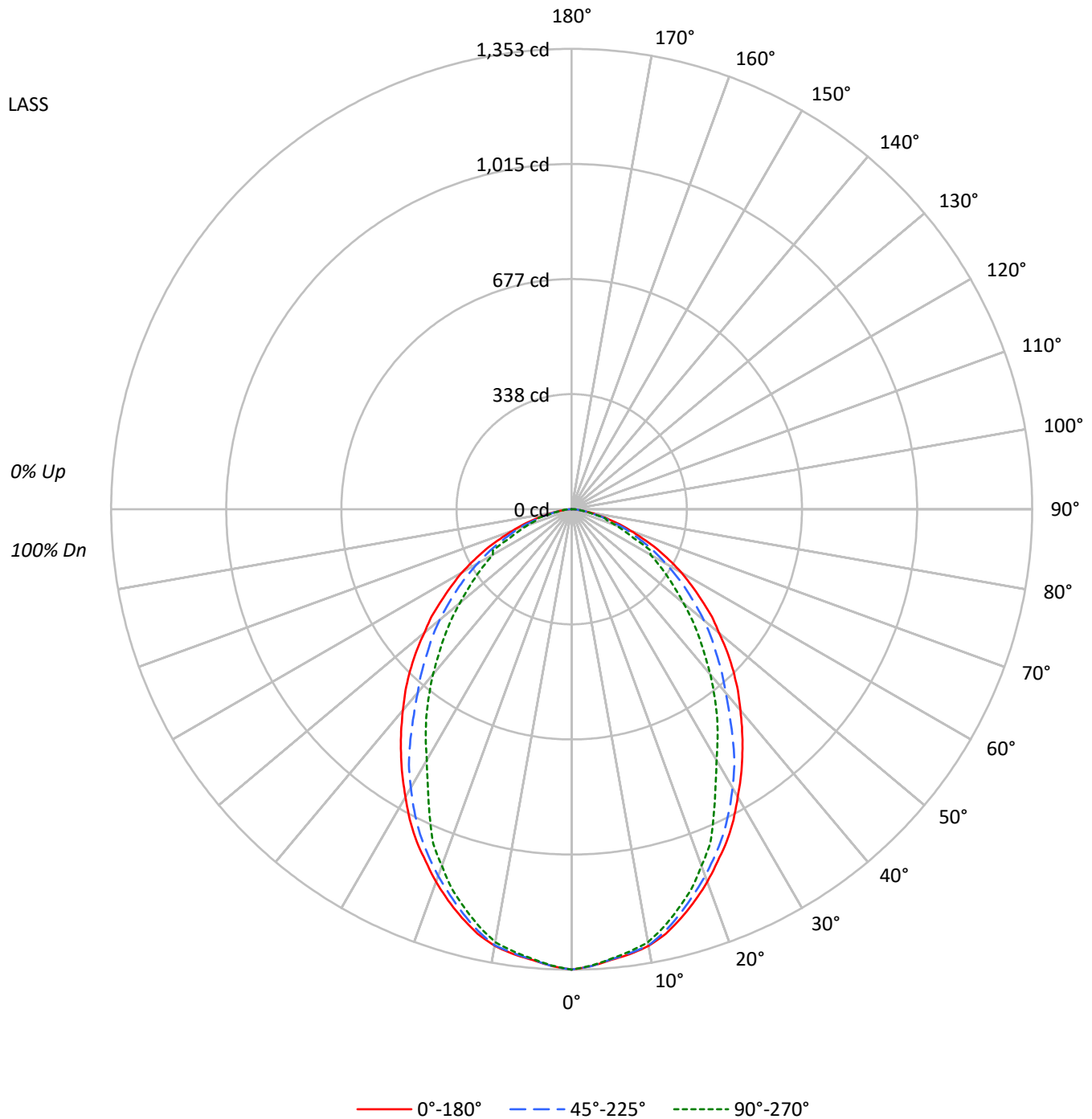
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3641	3641	3641
5°	3591	3587	3583
10°	3560	3556	3530
15°	3464	3429	3381
20°	3337	3283	3194
25°	3200	3130	2935
30°	3033	2935	2644
35°	2872	2713	2446
40°	2709	2472	2225
45°	2554	2286	2012
50°	2364	2122	1794
55°	2187	1923	1607
60°	2004	1717	1440
65°	1762	1504	1275
70°	1452	1317	1083
75°	1154	1009	1057
80°	776	727	679
85°	482	580	676

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2554 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.9	4.7
10°-20°	345.6	13.0
20°-30°	478.5	18.0
30°-40°	510.2	19.2
40°-50°	465.5	17.5
50°-60°	364.7	13.7
60°-70°	237.7	8.9
70°-80°	105.3	4.0
80°-90°	22.6	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°	950.1	35.8
0°-40°	1460.3	55.0
0°-60°	2290.4	86.2
0°-90°	2656.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2656.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1353	1353	1353	1353	1353	
5°	1330	1328	1328	1326	1326	126
15°	1243	1243	1231	1218	1214	350
25°	1078	1071	1054	1017	988	495
35°	874	868	826	763	744	547
45°	671	657	601	551	529	517
55°	466	452	410	361	342	418
65°	277	261	236	241	200	273
75°	111	103	97	92	102	119
85°	16	17	19	20	22	22
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1352.9	1352.9	1352.9	1352.9	1352.9
2.5°	1343.5	1343.5	1343.5	1342.0	1342.0
5°	1329.5	1327.9	1327.9	1326.3	1326.3
7.5°	1318.5	1317.0	1315.4	1313.8	1310.7
10°	1302.9	1302.9	1301.3	1293.5	1291.9
12.5°	1277.9	1276.3	1270.0	1259.1	1256.0
15°	1243.4	1243.4	1230.9	1218.4	1213.7
17.5°	1205.9	1204.3	1188.7	1176.2	1169.9
20°	1165.2	1162.1	1146.5	1126.1	1115.2
22.5°	1119.9	1119.9	1101.1	1074.5	1063.6
25°	1077.7	1071.4	1054.2	1016.7	988.5
27.5°	1029.2	1019.8	1001.0	947.8	915.0
30°	976.0	971.3	944.7	875.9	850.9
32.5°	925.9	918.1	890.0	818.0	797.7
35°	874.3	868.1	825.8	763.3	744.5
37.5°	822.7	814.9	761.7	711.7	688.2
40°	771.1	761.7	703.8	658.5	633.5
42.5°	722.6	710.1	653.8	605.3	577.1
45°	671.0	656.9	600.6	550.6	528.7
47.5°	619.4	606.9	555.2	503.6	478.6
50°	564.6	553.7	506.8	455.1	428.6
52.5°	519.3	502.1	456.7	405.1	383.2
55°	466.1	452.0	409.8	361.3	342.5
57.5°	417.6	403.5	364.4	319.1	303.4
60°	372.3	351.9	319.1	280.0	267.5
62.5°	322.2	306.6	278.4	245.6	261.2
65°	276.8	261.2	236.2	240.9	200.2
67.5°	226.8	219.0	197.1	175.2	168.9
70°	184.6	175.2	167.4	143.9	137.6
72.5°	147.0	137.6	126.7	114.2	109.5
75°	111.0	103.2	97.0	92.3	101.7
77.5°	76.6	73.5	68.8	64.1	62.6
80°	50.1	48.5	46.9	45.4	43.8
82.5°	29.7	29.7	29.7	29.7	29.7
85°	15.6	17.2	18.8	20.3	21.9
87.5°	9.4	9.4	10.9	12.5	14.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)