

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: P561213

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-80-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561213
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-40-UNV-80-96-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3325.0 lumens
Efficiency: N/A
Efficacy: 99.8 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

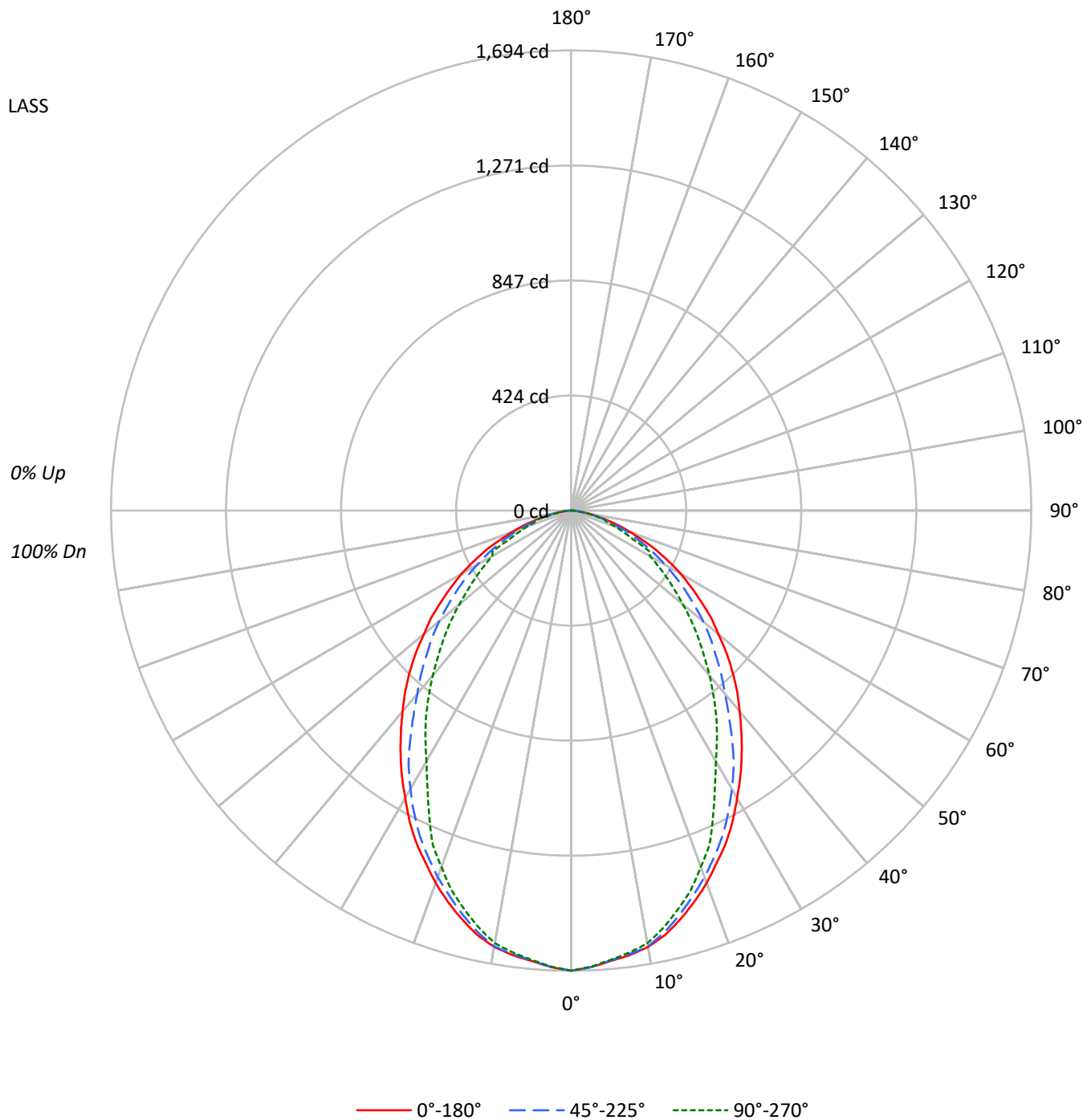
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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				
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°	4558	4558	4558
5°	4496	4491	4485
10°	4457	4452	4419
15°	4337	4293	4233
20°	4177	4110	3998
25°	4006	3918	3674
30°	3796	3675	3310
35°	3596	3396	3062
40°	3391	3095	2786
45°	3197	2861	2519
50°	2959	2656	2246
55°	2738	2407	2012
60°	2508	2150	1802
65°	2207	1883	1596
70°	1817	1648	1356
75°	1445	1262	1324
80°	972	910	849
85°	605	726	846

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3197 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.7	4.7
10°-20°	432.7	13.0
20°-30°	599.0	18.0
30°-40°	638.7	19.2
40°-50°	582.7	17.5
50°-60°	456.5	13.7
60°-70°	297.5	8.9
70°-80°	131.8	4.0
80°-90°	28.3	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°	1189.4	35.8
0°-40°	1828.1	55.0
0°-60°	2867.3	86.2
0°-90°	3325.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3325.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1694	1694	1694	1694	1694	
5°	1664	1662	1662	1660	1660	158
15°	1557	1557	1541	1525	1519	438
25°	1349	1341	1320	1273	1238	619
35°	1094	1087	1034	956	932	684
45°	840	822	752	689	662	647
55°	584	566	513	452	429	523
65°	347	327	296	302	251	342
75°	139	129	121	116	127	149
85°	20	22	24	26	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1693.7	1693.7	1693.7	1693.7	1693.7
2.5°	1682.0	1682.0	1682.0	1680.0	1680.0
5°	1664.3	1662.4	1662.4	1660.4	1660.4
7.5°	1650.6	1648.7	1646.7	1644.8	1640.8
10°	1631.1	1631.1	1629.1	1619.3	1617.3
12.5°	1599.7	1597.8	1589.9	1576.2	1572.3
15°	1556.6	1556.6	1541.0	1525.3	1519.4
17.5°	1509.7	1507.7	1488.1	1472.5	1464.6
20°	1458.7	1454.8	1435.2	1409.8	1396.1
22.5°	1402.0	1402.0	1378.5	1345.2	1331.5
25°	1349.1	1341.3	1319.7	1272.7	1237.5
27.5°	1288.4	1276.6	1253.2	1186.6	1145.5
30°	1221.8	1215.9	1182.7	1096.5	1065.2
32.5°	1159.2	1149.4	1114.1	1024.1	998.6
35°	1094.5	1086.7	1033.8	955.5	932.0
37.5°	1029.9	1020.1	953.6	890.9	861.5
40°	965.3	953.6	881.1	824.3	793.0
42.5°	904.6	889.0	818.5	757.8	722.5
45°	840.0	822.4	751.9	689.2	661.8
47.5°	775.4	759.7	695.1	630.5	599.2
50°	706.9	693.1	634.4	569.8	536.5
52.5°	650.1	628.5	571.7	507.1	479.7
55°	583.5	565.9	513.0	452.3	428.8
57.5°	522.8	505.2	456.2	399.4	379.9
60°	466.0	440.6	399.4	350.5	334.8
62.5°	403.4	383.8	348.5	307.4	327.0
65°	346.6	327.0	295.7	301.5	250.6
67.5°	283.9	274.1	246.7	219.3	211.5
70°	231.0	219.3	209.5	180.1	172.3
72.5°	184.1	172.3	158.6	142.9	137.1
75°	139.0	129.2	121.4	115.5	127.3
77.5°	95.9	92.0	86.2	80.3	78.3
80°	62.7	60.7	58.7	56.8	54.8
82.5°	37.2	37.2	37.2	37.2	37.2
85°	19.6	21.5	23.5	25.5	27.4
87.5°	11.7	11.7	13.7	15.7	17.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)