

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: P561286

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561286
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-50-UNV-81-87-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2644.0 lumens
Efficiency: N/A
Efficacy: 79.4 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

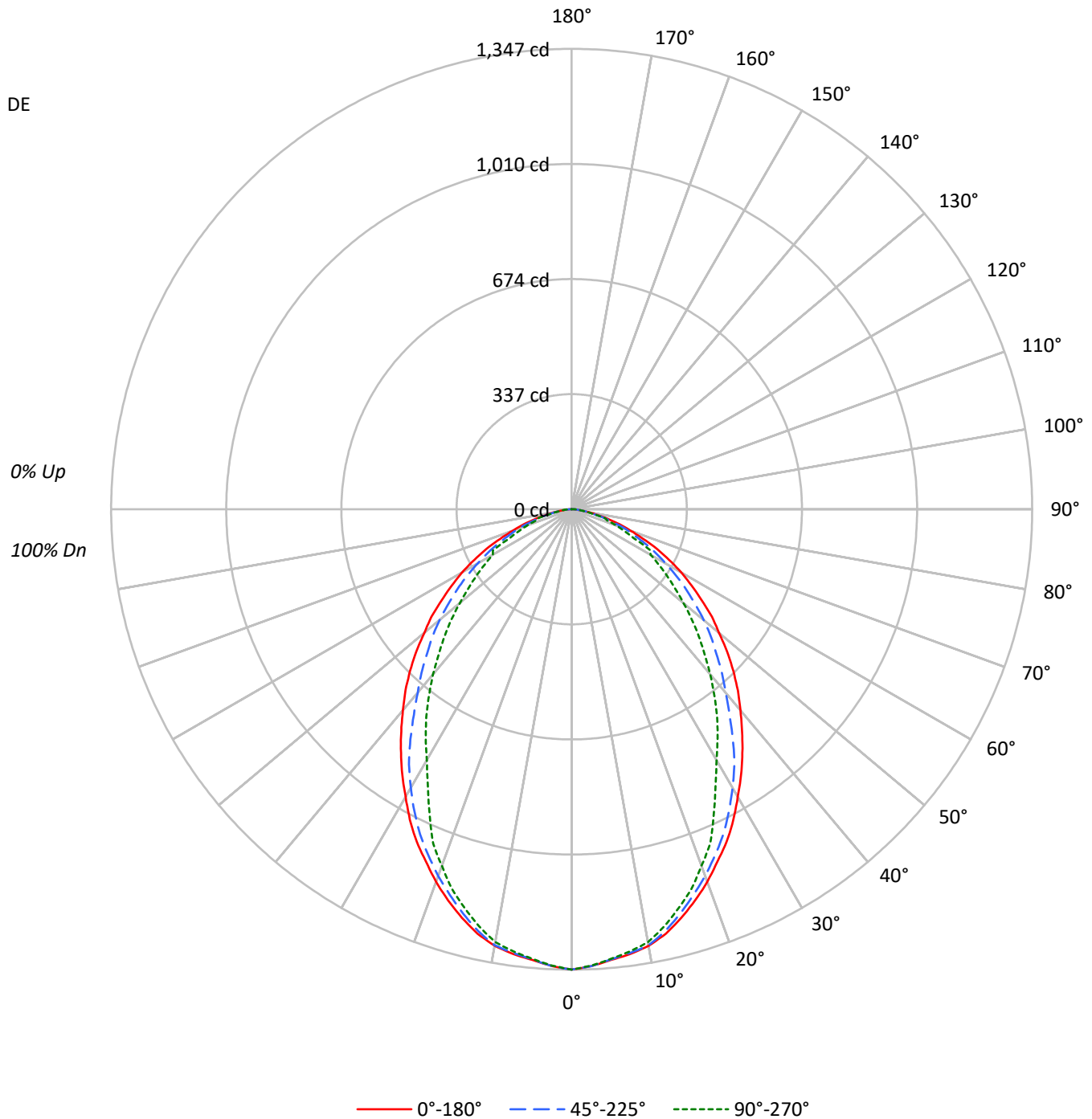
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3624	3624	3624
5°	3575	3571	3566
10°	3544	3540	3514
15°	3448	3414	3366
20°	3322	3268	3179
25°	3185	3116	2922
30°	3019	2922	2632
35°	2859	2701	2435
40°	2696	2461	2215
45°	2542	2275	2003
50°	2353	2112	1786
55°	2177	1914	1600
60°	1995	1709	1433
65°	1755	1497	1269
70°	1445	1311	1078
75°	1149	1003	1052
80°	772	724	676
85°	482	577	673

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2542 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.4	4.7
10°-20°	344.1	13.0
20°-30°	476.3	18.0
30°-40°	507.9	19.2
40°-50°	463.4	17.5
50°-60°	363.0	13.7
60°-70°	236.6	8.9
70°-80°	104.8	4.0
80°-90°	22.5	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°	945.8	35.8
0°-40°	1453.7	55.0
0°-60°	2280.1	86.2
0°-90°	2644.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2644.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1347	1347	1347	1347	1347	
5°	1324	1322	1322	1320	1320	126
15°	1238	1238	1225	1213	1208	348
25°	1073	1067	1049	1012	984	493
35°	870	864	822	760	741	544
45°	668	654	598	548	526	515
55°	464	450	408	360	341	416
65°	276	260	235	240	199	272
75°	110	103	96	92	101	118
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°	1346.8	1346.8	1346.8	1346.8	1346.8
2.5°	1337.5	1337.5	1337.5	1335.9	1335.9
5°	1323.5	1321.9	1321.9	1320.3	1320.3
7.5°	1312.6	1311.0	1309.4	1307.9	1304.8
10°	1297.0	1297.0	1295.4	1287.7	1286.1
12.5°	1272.1	1270.5	1264.3	1253.4	1250.3
15°	1237.8	1237.8	1225.4	1212.9	1208.2
17.5°	1200.5	1198.9	1183.3	1170.9	1164.6
20°	1160.0	1156.9	1141.3	1121.1	1110.2
22.5°	1114.8	1114.8	1096.1	1069.7	1058.8
25°	1072.8	1066.6	1049.4	1012.1	984.0
27.5°	1024.5	1015.2	996.5	943.6	910.9
30°	971.6	966.9	940.4	871.9	847.0
32.5°	921.8	914.0	885.9	814.3	794.1
35°	870.4	864.1	822.1	759.8	741.1
37.5°	819.0	811.2	758.3	708.4	685.1
40°	767.6	758.3	700.7	655.5	630.6
42.5°	719.3	706.9	650.8	602.6	574.5
45°	668.0	653.9	597.9	548.1	526.3
47.5°	616.6	604.1	552.7	501.4	476.4
50°	562.1	551.2	504.5	453.1	426.6
52.5°	516.9	499.8	454.6	403.3	381.5
55°	464.0	450.0	407.9	359.7	341.0
57.5°	415.7	401.7	362.8	317.6	302.1
60°	370.6	350.3	317.6	278.7	266.2
62.5°	320.7	305.2	277.1	244.5	260.0
65°	275.6	260.0	235.1	239.8	199.3
67.5°	225.8	218.0	196.2	174.4	168.2
70°	183.7	174.4	166.6	143.2	137.0
72.5°	146.4	137.0	126.1	113.7	109.0
75°	110.5	102.8	96.5	91.9	101.2
77.5°	76.3	73.2	68.5	63.8	62.3
80°	49.8	48.3	46.7	45.2	43.6
82.5°	29.6	29.6	29.6	29.6	29.6
85°	15.6	17.1	18.7	20.2	21.8
87.5°	9.3	9.3	10.9	12.5	14.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)