

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: P561220

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561220
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-81-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2595.0 lumens
Efficiency: N/A
Efficacy: 77.9 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

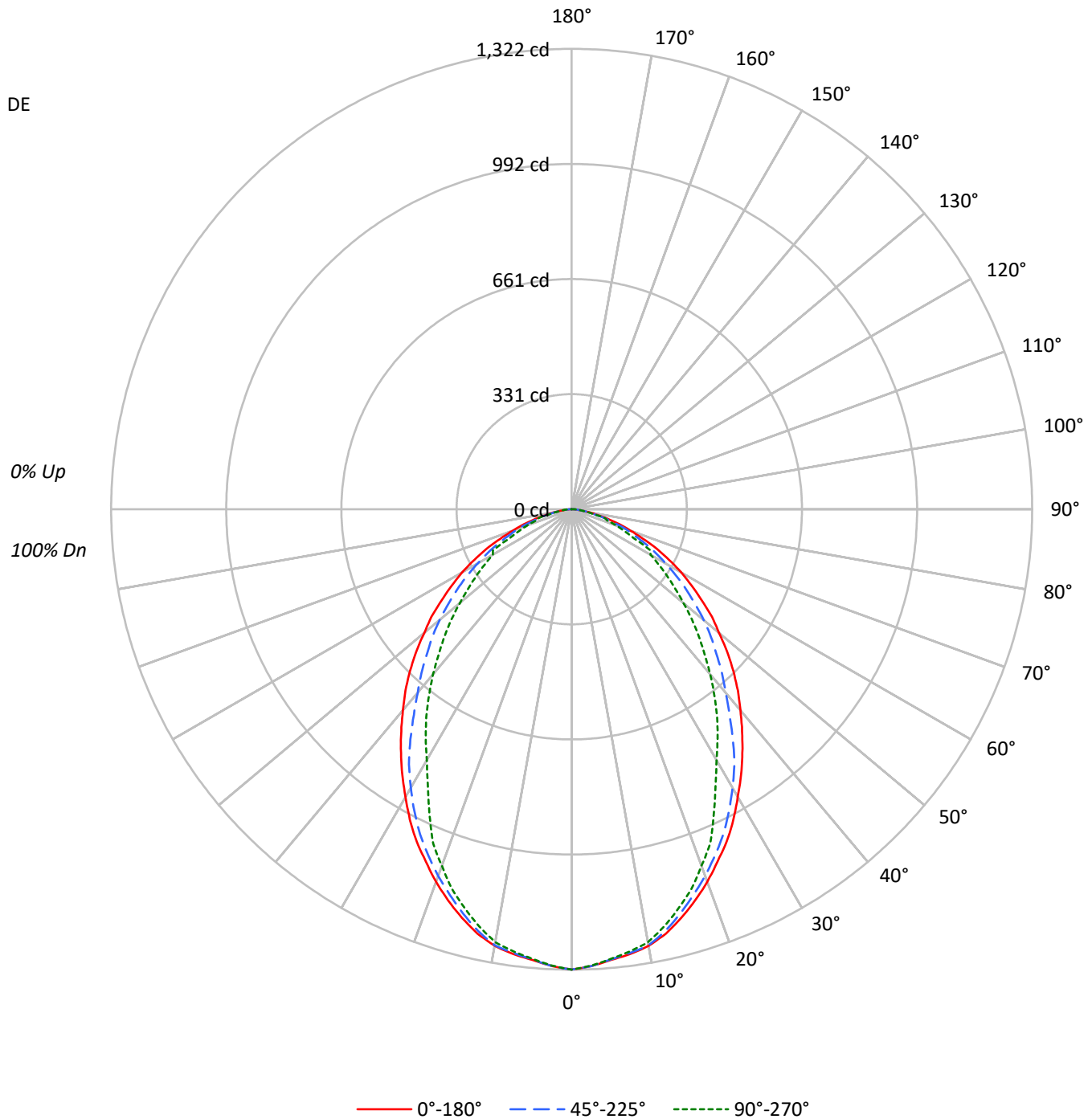
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3557	3557	3557
5°	3509	3505	3501
10°	3478	3474	3449
15°	3385	3351	3304
20°	3260	3208	3120
25°	3126	3058	2868
30°	2963	2868	2583
35°	2806	2651	2390
40°	2647	2416	2174
45°	2495	2233	1966
50°	2310	2073	1753
55°	2137	1879	1570
60°	1957	1678	1406
65°	1722	1470	1245
70°	1419	1286	1058
75°	1128	985	1032
80°	758	710	663
85°	472	565	661

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2495 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.0	4.7
10°-20°	337.7	13.0
20°-30°	467.5	18.0
30°-40°	498.5	19.2
40°-50°	454.8	17.5
50°-60°	356.3	13.7
60°-70°	232.2	8.9
70°-80°	102.9	4.0
80°-90°	22.1	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°	928.3	35.8
0°-40°	1426.8	55.0
0°-60°	2237.8	86.2
0°-90°	2595.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2595.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1322	1322	1322	1322	1322	
5°	1299	1297	1297	1296	1296	123
15°	1215	1215	1203	1190	1186	342
25°	1053	1047	1030	993	966	483
35°	854	848	807	746	727	534
45°	656	642	587	538	516	505
55°	455	442	400	353	335	408
65°	270	255	231	235	196	267
75°	108	101	95	90	99	116
85°	15	17	18	20	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1321.9	1321.9	1321.9	1321.9	1321.9
2.5°	1312.7	1312.7	1312.7	1311.2	1311.2
5°	1298.9	1297.4	1297.4	1295.9	1295.9
7.5°	1288.2	1286.7	1285.2	1283.7	1280.6
10°	1273.0	1273.0	1271.4	1263.8	1262.3
12.5°	1248.5	1247.0	1240.9	1230.2	1227.1
15°	1214.9	1214.9	1202.7	1190.4	1185.9
17.5°	1178.2	1176.7	1161.4	1149.2	1143.1
20°	1138.5	1135.4	1120.1	1100.3	1089.6
22.5°	1094.2	1094.2	1075.8	1049.8	1039.1
25°	1052.9	1046.8	1030.0	993.3	965.8
27.5°	1005.5	996.4	978.0	926.1	894.0
30°	953.6	949.0	923.0	855.8	831.3
32.5°	904.7	897.0	869.5	799.2	779.4
35°	854.2	848.1	806.9	745.7	727.4
37.5°	803.8	796.2	744.2	695.3	672.4
40°	753.4	744.2	687.7	643.4	618.9
42.5°	706.0	693.8	638.8	591.4	563.9
45°	655.6	641.8	586.8	537.9	516.5
47.5°	605.2	592.9	542.5	492.1	467.6
50°	551.7	541.0	495.1	444.7	418.7
52.5°	507.3	490.5	446.2	395.8	374.4
55°	455.4	441.6	400.4	353.0	334.7
57.5°	408.0	394.3	356.1	311.7	296.5
60°	363.7	343.8	311.7	273.5	261.3
62.5°	314.8	299.5	272.0	239.9	255.2
65°	270.5	255.2	230.8	235.3	195.6
67.5°	221.6	213.9	192.5	171.2	165.0
70°	180.3	171.2	163.5	140.6	134.5
72.5°	143.6	134.5	123.8	111.6	107.0
75°	108.5	100.9	94.7	90.2	99.3
77.5°	74.9	71.8	67.2	62.7	61.1
80°	48.9	47.4	45.8	44.3	42.8
82.5°	29.0	29.0	29.0	29.0	29.0
85°	15.3	16.8	18.3	19.9	21.4
87.5°	9.2	9.2	10.7	12.2	13.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)