

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: P562222

Luminaire Tested: FSR-24-4-LD4-1LO-40-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562222
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-93-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2368.0 lumens
Efficiency: N/A
Efficacy: 101.2 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

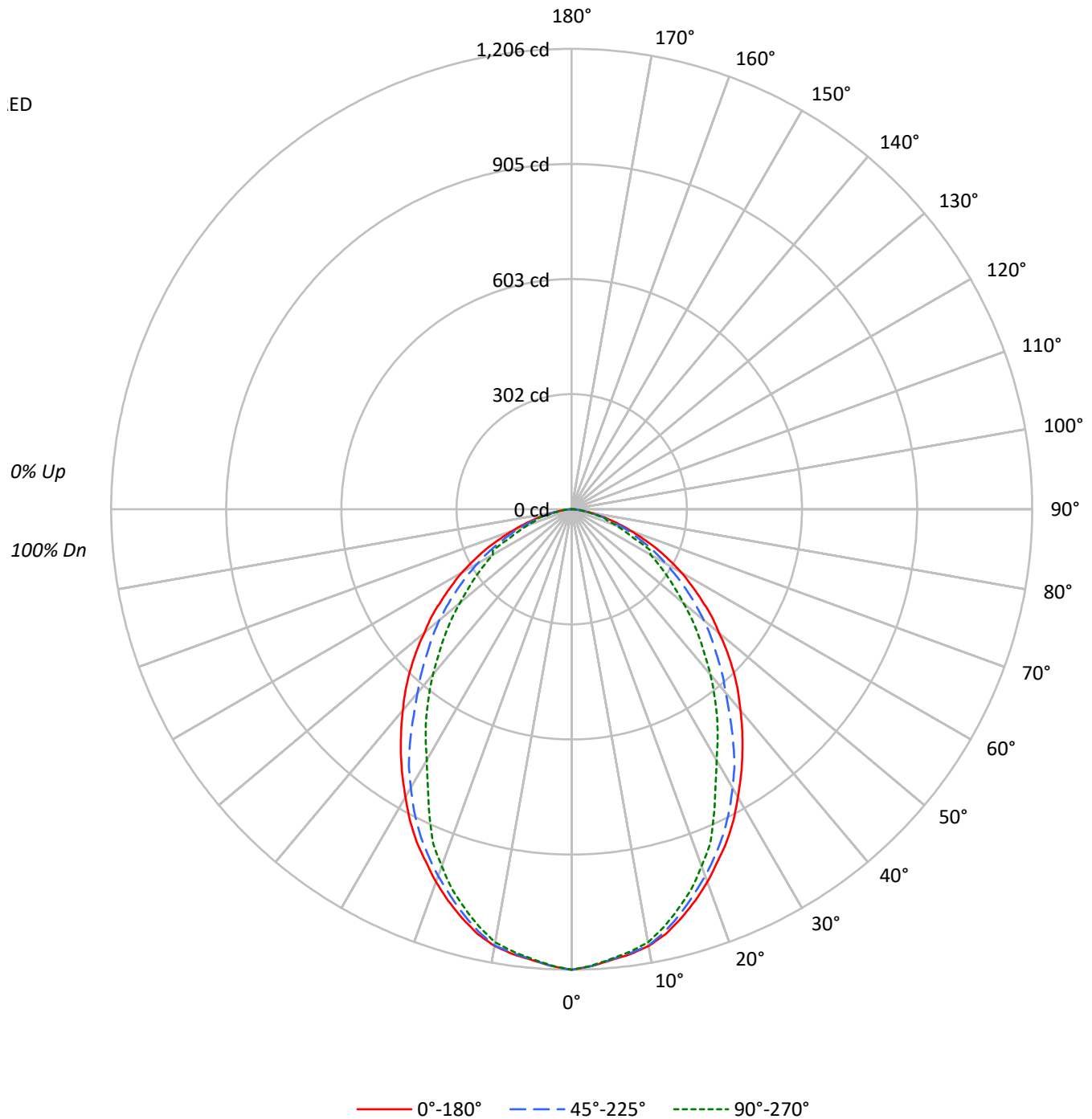
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	1623	1623	1623
5°	1601	1599	1597
10°	1587	1585	1574
15°	1544	1529	1507
20°	1488	1464	1424
25°	1426	1395	1308
30°	1352	1309	1179
35°	1280	1209	1090
40°	1208	1102	992
45°	1138	1019	897
50°	1054	946	800
55°	975	857	716
60°	893	766	642
65°	786	670	568
70°	647	587	483
75°	515	450	471
80°	346	324	302
85°	215	258	301

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1138 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.3	4.7
10°-20°	308.2	13.0
20°-30°	426.6	18.0
30°-40°	454.9	19.2
40°-50°	415.0	17.5
50°-60°	325.1	13.7
60°-70°	211.9	8.9
70°-80°	93.9	4.0
80°-90°	20.2	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°	847.1	35.8
0°-40°	1302.0	55.0
0°-60°	2042.1	86.2
0°-90°	2368.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2368.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1206	1206	1206	1206	1206	
5°	1185	1184	1184	1182	1182	113
15°	1109	1109	1098	1086	1082	312
25°	961	955	940	906	881	441
35°	780	774	736	680	664	487
45°	598	586	536	491	471	461
55°	416	403	365	322	305	373
65°	247	233	211	215	178	243
75°	99	92	86	82	91	106
85°	14	15	17	18	20	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1206.2	1206.2	1206.2	1206.2	1206.2
2.5°	1197.9	1197.9	1197.9	1196.5	1196.5
5°	1185.3	1183.9	1183.9	1182.5	1182.5
7.5°	1175.5	1174.2	1172.8	1171.4	1168.6
10°	1161.6	1161.6	1160.2	1153.2	1151.8
12.5°	1139.3	1137.9	1132.3	1122.6	1119.8
15°	1108.6	1108.6	1097.5	1086.3	1082.1
17.5°	1075.1	1073.8	1059.8	1048.7	1043.1
20°	1038.9	1036.1	1022.2	1004.0	994.3
22.5°	998.4	998.4	981.7	958.0	948.2
25°	960.8	955.2	939.9	906.4	881.3
27.5°	917.6	909.2	892.5	845.1	815.8
30°	870.2	866.0	842.3	780.9	758.6
32.5°	825.5	818.6	793.5	729.3	711.2
35°	779.5	773.9	736.3	680.5	663.8
37.5°	733.5	726.5	679.1	634.5	613.6
40°	687.5	679.1	627.5	587.1	564.8
42.5°	644.3	633.1	582.9	539.7	514.6
45°	598.2	585.7	535.5	490.9	471.3
47.5°	552.2	541.1	495.0	449.0	426.7
50°	503.4	493.6	451.8	405.8	382.1
52.5°	463.0	447.6	407.2	361.2	341.6
55°	415.6	403.0	365.4	322.1	305.4
57.5°	372.3	359.8	324.9	284.5	270.5
60°	331.9	313.8	284.5	249.6	238.5
62.5°	287.3	273.3	248.2	218.9	232.9
65°	246.8	232.9	210.6	214.8	178.5
67.5°	202.2	195.2	175.7	156.2	150.6
70°	164.5	156.2	149.2	128.3	122.7
72.5°	131.1	122.7	113.0	101.8	97.6
75°	99.0	92.0	86.5	82.3	90.6
77.5°	68.3	65.5	61.4	57.2	55.8
80°	44.6	43.2	41.8	40.4	39.0
82.5°	26.5	26.5	26.5	26.5	26.5
85°	13.9	15.3	16.7	18.1	19.5
87.5°	8.4	8.4	9.8	11.2	12.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)