

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: P560995

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-93-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560995
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-LD4-1LO-35-UNV-93-85-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2436.0 lumens
Efficiency: N/A
Efficacy: 104.1 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

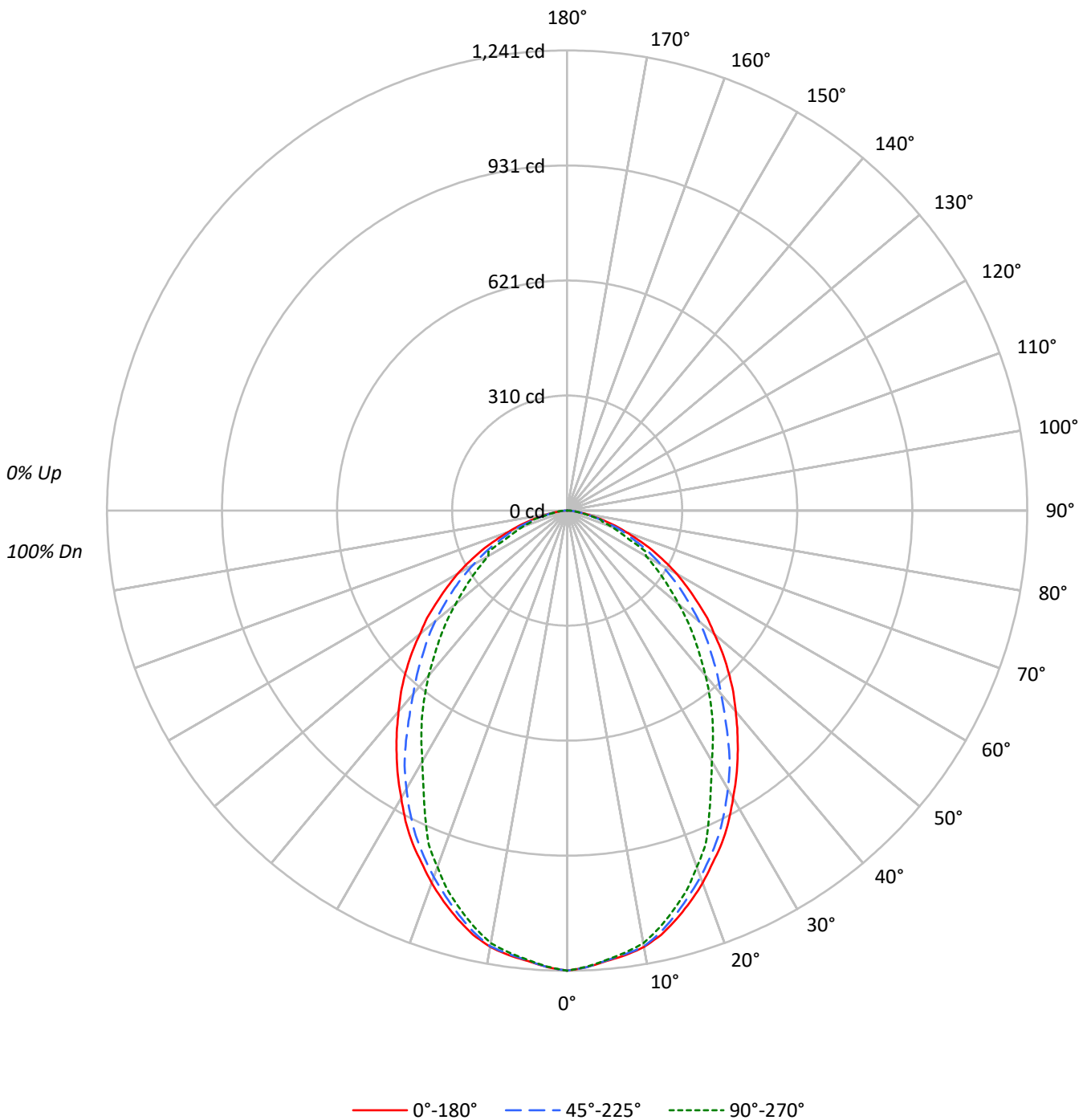
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3339	3339	3339
5°	3294	3290	3286
10°	3265	3261	3238
15°	3177	3145	3101
20°	3060	3011	2929
25°	2935	2871	2692
30°	2781	2692	2425
35°	2634	2488	2243
40°	2484	2268	2041
45°	2342	2097	1845
50°	2168	1946	1646
55°	2006	1763	1474
60°	1837	1575	1320
65°	1617	1379	1169
70°	1332	1208	993
75°	1059	924	969
80°	711	666	623
85°	442	531	621

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2342 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.5	4.7
10°-20°	317.0	13.0
20°-30°	438.9	18.0
30°-40°	468.0	19.2
40°-50°	426.9	17.5
50°-60°	334.5	13.7
60°-70°	218.0	8.9
70°-80°	96.6	4.0
80°-90°	20.7	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°	871.4	35.8
0°-40°	1339.3	55.0
0°-60°	2100.7	86.2
0°-90°	2436.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2436.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1241	1241	1241	1241	1241	
5°	1219	1218	1218	1216	1216	116
15°	1140	1140	1129	1118	1113	321
25°	988	983	967	932	907	454
35°	802	796	757	700	683	501
45°	615	602	551	505	485	474
55°	428	415	376	331	314	383
65°	254	240	217	221	184	250
75°	102	95	89	85	93	109
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1240.9	1240.9	1240.9	1240.9	1240.9
2.5°	1232.3	1232.3	1232.3	1230.8	1230.8
5°	1219.3	1217.9	1217.9	1216.5	1216.5
7.5°	1209.3	1207.9	1206.4	1205.0	1202.1
10°	1195.0	1195.0	1193.5	1186.4	1184.9
12.5°	1172.0	1170.6	1164.8	1154.8	1151.9
15°	1140.4	1140.4	1129.0	1117.5	1113.2
17.5°	1106.0	1104.6	1090.2	1078.8	1073.0
20°	1068.7	1065.9	1051.5	1032.9	1022.8
22.5°	1027.1	1027.1	1009.9	985.5	975.5
25°	988.4	982.7	966.9	932.4	906.6
27.5°	943.9	935.3	918.1	869.3	839.2
30°	895.1	890.8	866.5	803.3	780.4
32.5°	849.2	842.1	816.2	750.3	731.6
35°	801.9	796.2	757.4	700.0	682.8
37.5°	754.6	747.4	698.6	652.7	631.2
40°	707.2	698.6	645.5	603.9	581.0
42.5°	662.8	651.3	599.6	555.2	529.3
45°	615.4	602.5	550.9	505.0	484.9
47.5°	568.1	556.6	509.3	461.9	439.0
50°	517.9	507.8	464.8	417.4	393.1
52.5°	476.3	460.5	418.9	371.5	351.5
55°	427.5	414.6	375.8	331.4	314.2
57.5°	383.0	370.1	334.2	292.6	278.3
60°	341.4	322.8	292.6	256.8	245.3
62.5°	295.5	281.2	255.3	225.2	239.6
65°	253.9	239.6	216.6	220.9	183.6
67.5°	208.0	200.8	180.8	160.7	154.9
70°	169.3	160.7	153.5	132.0	126.2
72.5°	134.8	126.2	116.2	104.7	100.4
75°	101.9	94.7	88.9	84.6	93.2
77.5°	70.3	67.4	63.1	58.8	57.4
80°	45.9	44.5	43.0	41.6	40.2
82.5°	27.3	27.3	27.3	27.3	27.3
85°	14.3	15.8	17.2	18.6	20.1
87.5°	8.6	8.6	10.0	11.5	12.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)