

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: P561958

Luminaire Tested: FSR-24-2-LD4-1LO-35-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561958
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-24-2-LD4-1LO-35-UNV-93-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2291.0 lumens
Efficiency: N/A
Efficacy: 97.9 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

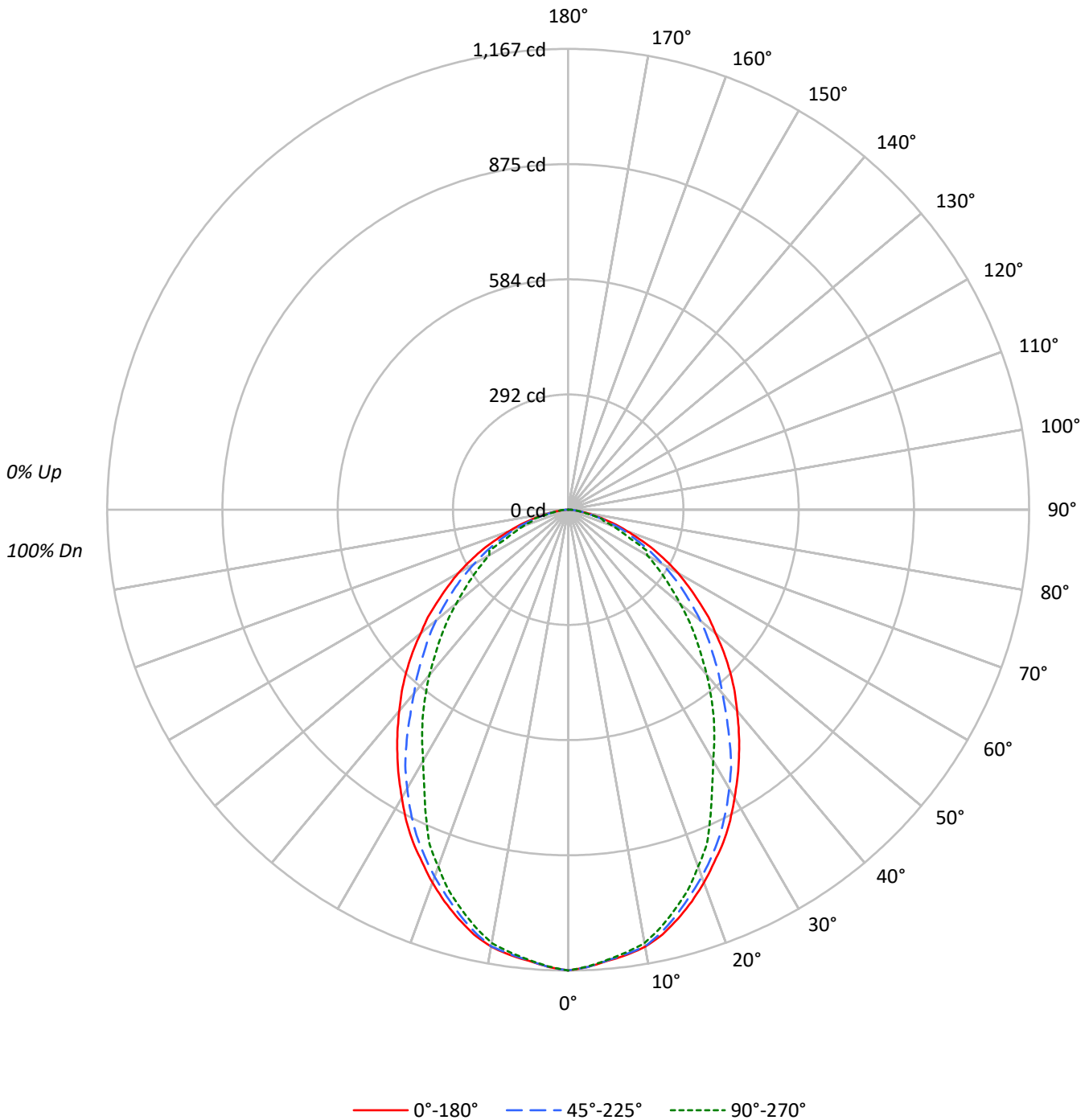
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	1570	1570	1570
5°	1549	1547	1545
10°	1535	1534	1523
15°	1494	1479	1458
20°	1439	1416	1377
25°	1380	1350	1266
30°	1308	1266	1140
35°	1239	1170	1055
40°	1168	1066	960
45°	1101	986	868
50°	1019	915	774
55°	943	829	693
60°	864	741	621
65°	760	649	550
70°	626	568	467
75°	498	435	456
80°	335	314	293
85°	208	250	292

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1101 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.6	4.7
10°-20°	298.1	13.0
20°-30°	412.7	18.0
30°-40°	440.1	19.2
40°-50°	401.5	17.5
50°-60°	314.5	13.7
60°-70°	205.0	8.9
70°-80°	90.8	4.0
80°-90°	19.5	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°	819.5	35.8
0°-40°	1259.6	55.0
0°-60°	1975.7	86.2
0°-90°	2291.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2291.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1167	1167	1167	1167	1167	
5°	1147	1145	1145	1144	1144	109
15°	1073	1073	1062	1051	1047	302
25°	930	924	909	877	853	427
35°	754	749	712	658	642	471
45°	579	567	518	475	456	446
55°	402	390	354	312	296	361
65°	239	225	204	208	173	235
75°	96	89	84	80	88	103
85°	14	15	16	18	19	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1167.0	1167.0	1167.0	1167.0	1167.0
2.5°	1158.9	1158.9	1158.9	1157.6	1157.6
5°	1146.8	1145.4	1145.4	1144.1	1144.1
7.5°	1137.3	1136.0	1134.6	1133.3	1130.6
10°	1123.8	1123.8	1122.5	1115.7	1114.4
12.5°	1102.2	1100.9	1095.5	1086.1	1083.4
15°	1072.6	1072.6	1061.8	1051.0	1046.9
17.5°	1040.2	1038.8	1025.3	1014.6	1009.2
20°	1005.1	1002.4	988.9	971.4	961.9
22.5°	966.0	966.0	949.8	926.9	917.4
25°	929.6	924.2	909.3	876.9	852.7
27.5°	887.7	879.6	863.4	817.6	789.2
30°	841.9	837.8	814.9	755.5	733.9
32.5°	798.7	791.9	767.7	705.6	688.1
35°	754.2	748.8	712.3	658.4	642.2
37.5°	709.6	702.9	657.0	613.9	593.6
40°	665.1	657.0	607.1	568.0	546.4
42.5°	623.3	612.5	563.9	522.1	497.8
45°	578.8	566.6	518.1	474.9	456.0
47.5°	534.3	523.5	478.9	434.4	412.8
50°	487.0	477.6	437.1	392.6	369.7
52.5°	447.9	433.1	393.9	349.4	330.5
55°	402.0	389.9	353.5	311.7	295.5
57.5°	360.2	348.1	314.3	275.2	261.7
60°	321.1	303.6	275.2	241.5	230.7
62.5°	277.9	264.4	240.1	211.8	225.3
65°	238.8	225.3	203.7	207.8	172.7
67.5°	195.6	188.9	170.0	151.1	145.7
70°	159.2	151.1	144.4	124.1	118.7
72.5°	126.8	118.7	109.3	98.5	94.4
75°	95.8	89.0	83.6	79.6	87.7
77.5°	66.1	63.4	59.4	55.3	54.0
80°	43.2	41.8	40.5	39.1	37.8
82.5°	25.6	25.6	25.6	25.6	25.6
85°	13.5	14.8	16.2	17.5	18.9
87.5°	8.1	8.1	9.4	10.8	12.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)