

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: P561064

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561064
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-40-UNV-93-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1781.0 lumens
Efficiency: N/A
Efficacy: 76.1 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

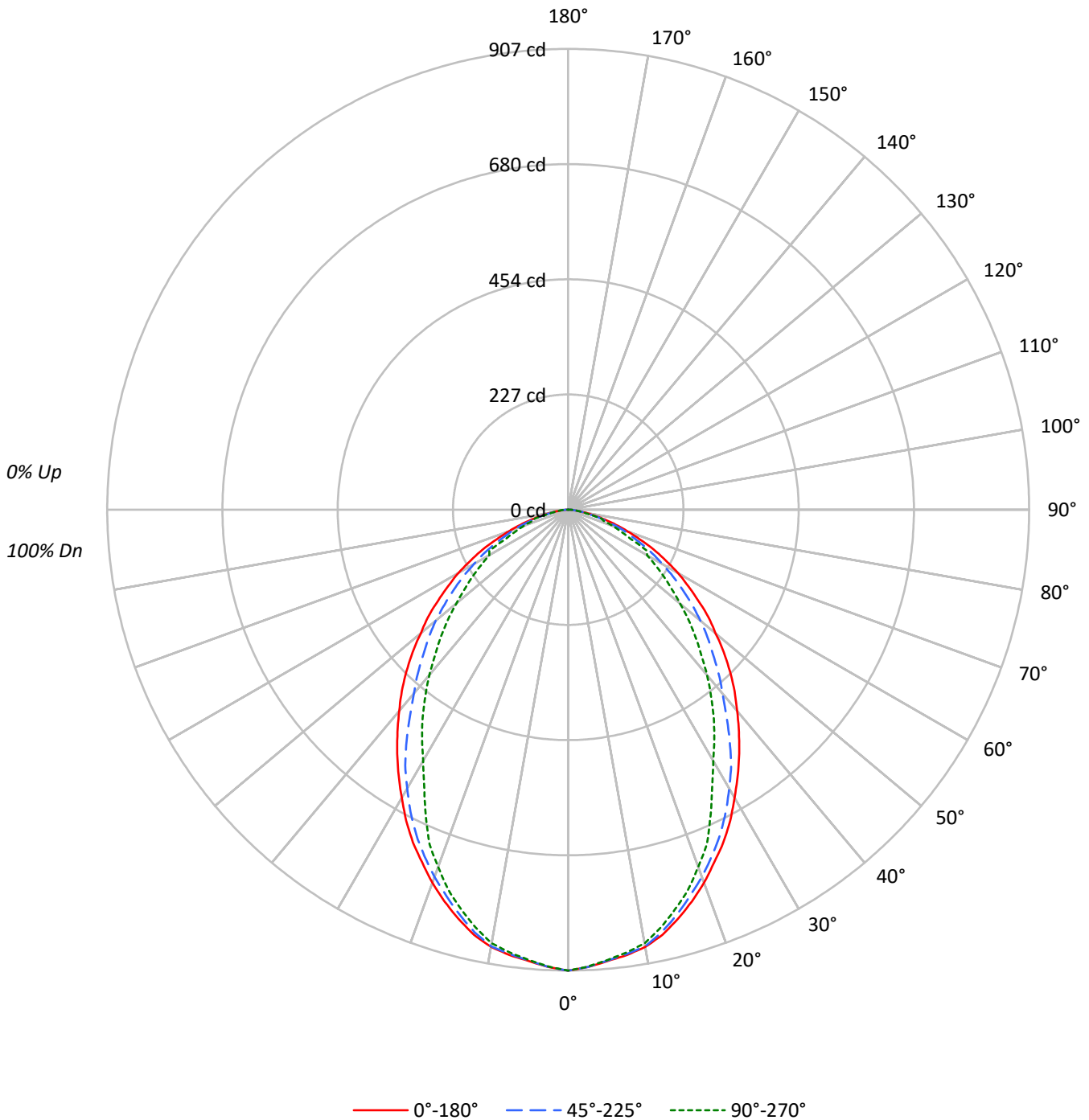
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2441	2441	2441
5°	2408	2405	2402
10°	2387	2384	2367
15°	2323	2299	2267
20°	2238	2202	2141
25°	2146	2099	1968
30°	2034	1968	1773
35°	1926	1819	1640
40°	1816	1658	1492
45°	1712	1533	1349
50°	1585	1423	1203
55°	1466	1289	1078
60°	1343	1152	965
65°	1182	1009	855
70°	974	883	726
75°	775	676	709
80°	521	488	456
85°	324	389	454

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1712 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.4	4.7
10°-20°	231.8	13.0
20°-30°	320.9	18.0
30°-40°	342.1	19.2
40°-50°	312.1	17.5
50°-60°	244.5	13.7
60°-70°	159.4	8.9
70°-80°	70.6	4.0
80°-90°	15.1	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°	637.1	35.8
0°-40°	979.2	55.0
0°-60°	1535.9	86.2
0°-90°	1781.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1781.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	907	907	907	907	907	
5°	892	890	890	889	889	85
15°	834	834	825	817	814	234
25°	723	718	707	682	663	332
35°	586	582	554	512	499	367
45°	450	440	403	369	354	347
55°	312	303	275	242	230	280
65°	186	175	158	162	134	183
75°	74	69	65	62	68	80
85°	10	12	13	14	15	15
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	907.2	907.2	907.2	907.2	907.2
2.5°	900.9	900.9	900.9	899.9	899.9
5°	891.5	890.4	890.4	889.4	889.4
7.5°	884.1	883.1	882.0	881.0	878.9
10°	873.7	873.7	872.6	867.4	866.3
12.5°	856.9	855.8	851.6	844.3	842.2
15°	833.8	833.8	825.4	817.0	813.9
17.5°	808.6	807.6	797.1	788.7	784.5
20°	781.4	779.3	768.8	755.1	747.8
22.5°	750.9	750.9	738.4	720.5	713.2
25°	722.6	718.4	706.9	681.7	662.8
27.5°	690.1	683.8	671.2	635.6	613.6
30°	654.5	651.3	633.5	587.3	570.6
32.5°	620.9	615.6	596.8	548.5	534.9
35°	586.3	582.1	553.8	511.8	499.2
37.5°	551.7	546.4	510.8	477.2	461.5
40°	517.1	510.8	472.0	441.5	424.8
42.5°	484.5	476.2	438.4	405.9	387.0
45°	449.9	440.5	402.7	369.2	354.5
47.5°	415.3	406.9	372.3	337.7	320.9
50°	378.6	371.3	339.8	305.2	287.4
52.5°	348.2	336.7	306.3	271.6	257.0
55°	312.5	303.1	274.8	242.3	229.7
57.5°	280.0	270.6	244.4	214.0	203.5
60°	249.6	236.0	214.0	187.7	179.3
62.5°	216.1	205.6	186.7	164.7	175.2
65°	185.6	175.2	158.4	161.5	134.2
67.5°	152.1	146.8	132.1	117.5	113.3
70°	123.8	117.5	112.2	96.5	92.3
72.5°	98.6	92.3	85.0	76.6	73.4
75°	74.5	69.2	65.0	61.9	68.2
77.5°	51.4	49.3	46.1	43.0	42.0
80°	33.6	32.5	31.5	30.4	29.4
82.5°	19.9	19.9	19.9	19.9	19.9
85°	10.5	11.5	12.6	13.6	14.7
87.5°	6.3	6.3	7.3	8.4	9.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)