

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: P560994

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560994
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-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2038.0 lumens
Efficiency: N/A
Efficacy: 87.1 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

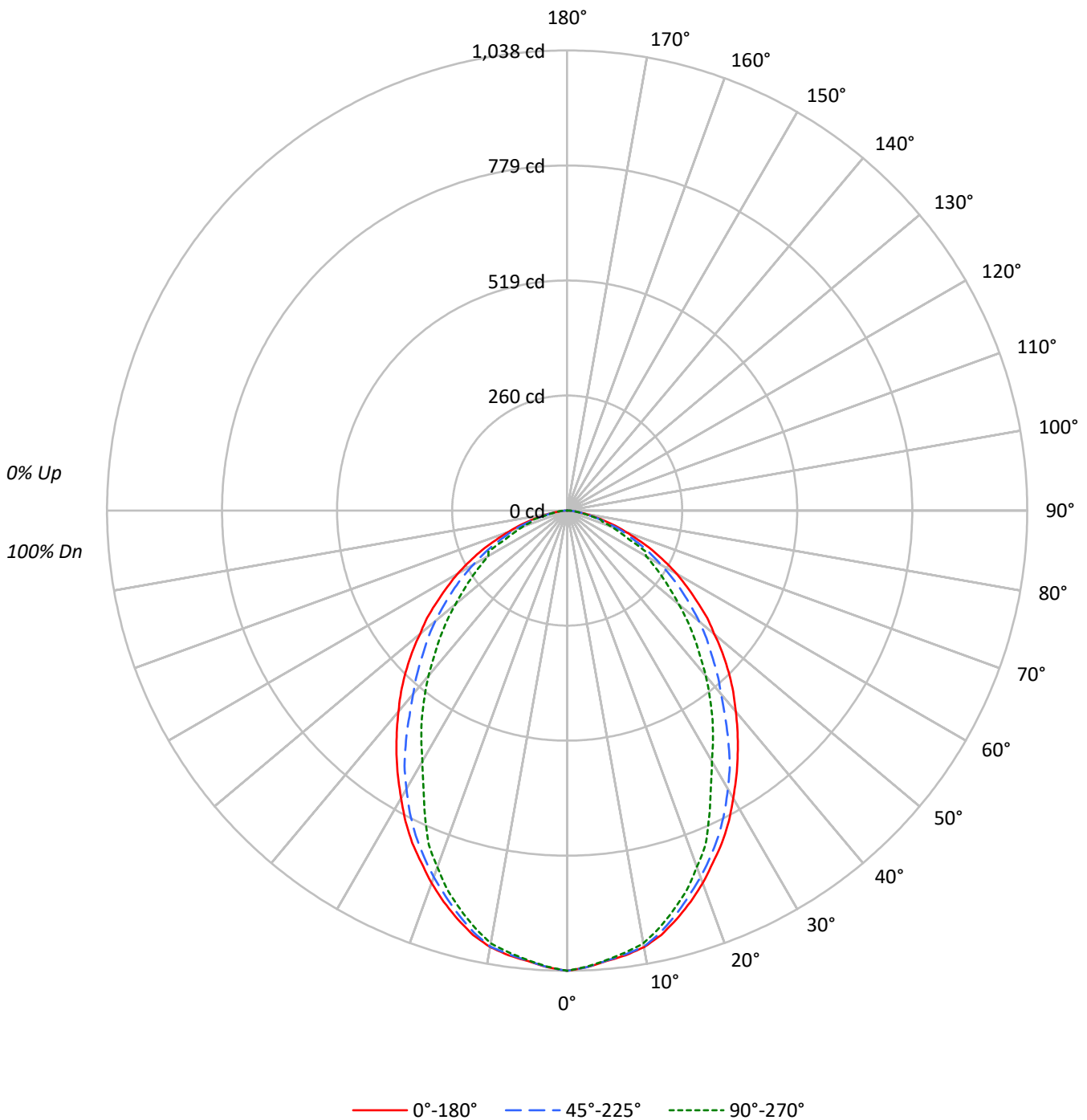
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2794	2794	2794
5°	2756	2752	2749
10°	2732	2728	2709
15°	2658	2631	2595
20°	2560	2519	2450
25°	2455	2402	2252
30°	2327	2252	2029
35°	2204	2082	1877
40°	2079	1897	1708
45°	1960	1754	1544
50°	1814	1628	1376
55°	1678	1475	1233
60°	1537	1318	1104
65°	1352	1154	978
70°	1114	1010	831
75°	886	774	811
80°	595	558	521
85°	371	445	519

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1960 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.6	4.7
10°-20°	265.2	13.0
20°-30°	367.2	18.0
30°-40°	391.5	19.2
40°-50°	357.2	17.5
50°-60°	279.8	13.7
60°-70°	182.3	8.9
70°-80°	80.8	4.0
80°-90°	17.3	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°	729.0	35.8
0°-40°	1120.5	55.0
0°-60°	1757.5	86.2
0°-90°	2038.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2038.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1038	1038	1038	1038	1038	
5°	1020	1019	1019	1018	1018	97
15°	954	954	944	935	931	268
25°	827	822	809	780	758	380
35°	671	666	634	586	571	419
45°	515	504	461	422	406	397
55°	358	347	314	277	263	321
65°	212	200	181	185	154	209
75°	85	79	74	71	78	91
85°	12	13	14	16	17	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1038.1	1038.1	1038.1	1038.1	1038.1
2.5°	1030.9	1030.9	1030.9	1029.7	1029.7
5°	1020.1	1018.9	1018.9	1017.7	1017.7
7.5°	1011.7	1010.5	1009.3	1008.1	1005.7
10°	999.7	999.7	998.5	992.5	991.3
12.5°	980.5	979.3	974.5	966.1	963.7
15°	954.1	954.1	944.5	934.9	931.3
17.5°	925.3	924.1	912.1	902.5	897.7
20°	894.1	891.7	879.7	864.1	855.7
22.5°	859.3	859.3	844.9	824.5	816.1
25°	826.9	822.1	808.9	780.1	758.5
27.5°	789.7	782.5	768.1	727.3	702.1
30°	748.9	745.3	724.9	672.1	652.9
32.5°	710.5	704.5	682.9	627.7	612.1
35°	670.9	666.1	633.7	585.7	571.3
37.5°	631.3	625.3	584.5	546.1	528.1
40°	591.7	584.5	540.1	505.3	486.1
42.5°	554.5	544.9	501.7	464.5	442.9
45°	514.9	504.1	460.9	422.5	405.7
47.5°	475.3	465.7	426.1	386.4	367.2
50°	433.3	424.9	388.8	349.2	328.8
52.5°	398.4	385.2	350.4	310.8	294.0
55°	357.6	346.8	314.4	277.2	262.8
57.5°	320.4	309.6	279.6	244.8	232.8
60°	285.6	270.0	244.8	214.8	205.2
62.5°	247.2	235.2	213.6	188.4	200.4
65°	212.4	200.4	181.2	184.8	153.6
67.5°	174.0	168.0	151.2	134.4	129.6
70°	141.6	134.4	128.4	110.4	105.6
72.5°	112.8	105.6	97.2	87.6	84.0
75°	85.2	79.2	74.4	70.8	78.0
77.5°	58.8	56.4	52.8	49.2	48.0
80°	38.4	37.2	36.0	34.8	33.6
82.5°	22.8	22.8	22.8	22.8	22.8
85°	12.0	13.2	14.4	15.6	16.8
87.5°	7.2	7.2	8.4	9.6	10.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)