

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: P561100

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561100
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-50-UNV-81-96-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2087.0 lumens
Efficiency: N/A
Efficacy: 89.2 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

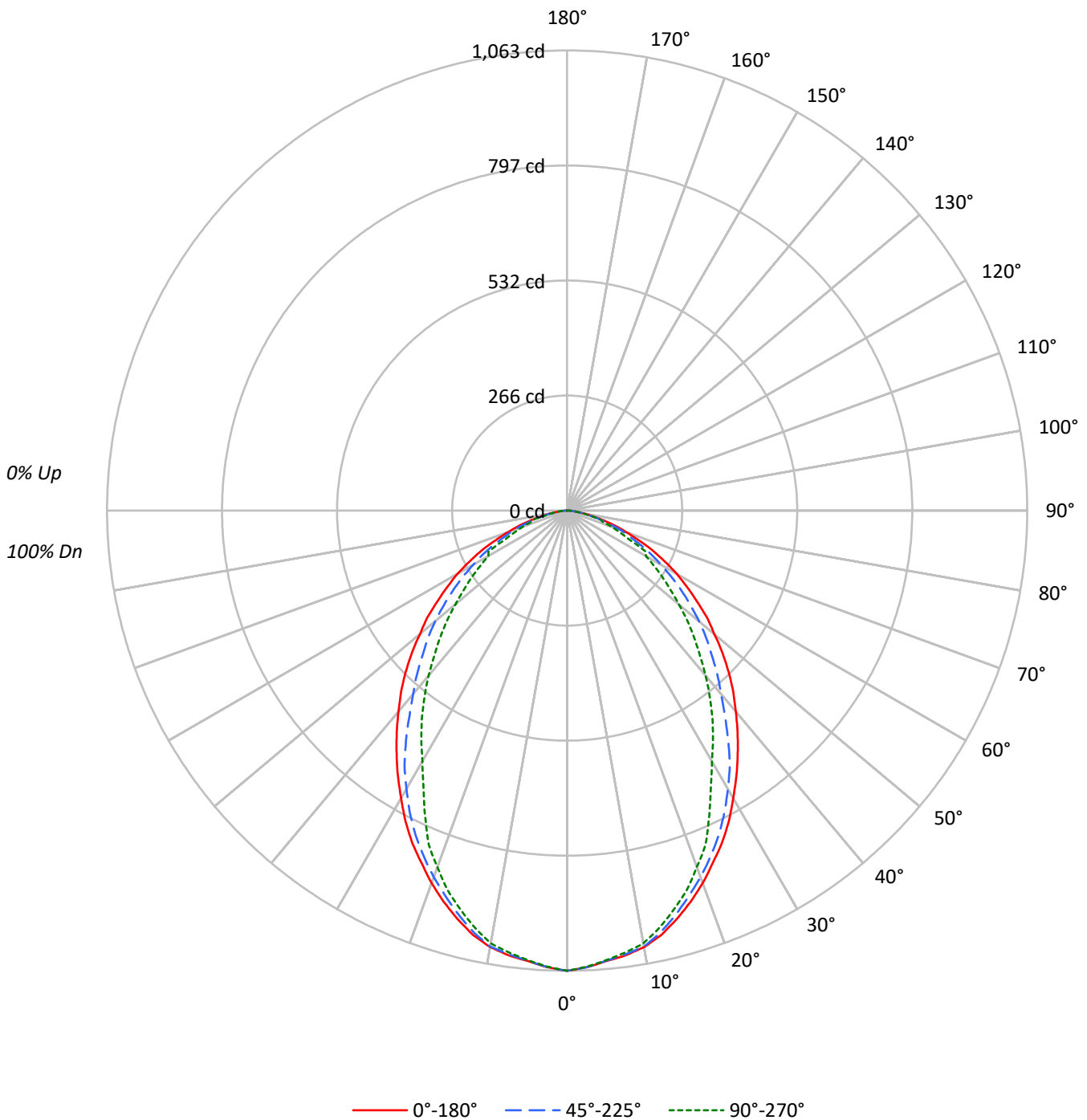
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2861	2861	2861
5°	2822	2818	2815
10°	2798	2794	2774
15°	2722	2695	2657
20°	2622	2580	2509
25°	2514	2459	2306
30°	2383	2307	2078
35°	2257	2132	1922
40°	2128	1943	1748
45°	2006	1796	1581
50°	1858	1667	1410
55°	1718	1511	1263
60°	1574	1349	1131
65°	1385	1182	1002
70°	1141	1035	851
75°	908	792	831
80°	609	572	533
85°	380	454	531

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2006 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.0	4.7
10°-20°	271.6	13.0
20°-30°	376.0	18.0
30°-40°	400.9	19.2
40°-50°	365.8	17.5
50°-60°	286.5	13.7
60°-70°	186.8	8.9
70°-80°	82.7	4.0
80°-90°	17.8	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°	746.5	35.8
0°-40°	1147.5	55.0
0°-60°	1799.7	86.2
0°-90°	2087.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2087.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1063	1063	1063	1063	1063	
5°	1045	1043	1043	1042	1042	99
15°	977	977	967	957	954	275
25°	847	842	828	799	777	389
35°	687	682	649	600	585	430
45°	527	516	472	433	415	406
55°	366	355	322	284	269	328
65°	218	205	186	189	157	214
75°	87	81	76	72	80	94
85°	12	14	15	16	17	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1063.1	1063.1	1063.1	1063.1	1063.1
2.5°	1055.7	1055.7	1055.7	1054.5	1054.5
5°	1044.7	1043.4	1043.4	1042.2	1042.2
7.5°	1036.1	1034.8	1033.6	1032.4	1029.9
10°	1023.8	1023.8	1022.5	1016.4	1015.2
12.5°	1004.1	1002.9	998.0	989.3	986.9
15°	977.1	977.1	967.2	957.4	953.7
17.5°	947.6	946.3	934.0	924.2	919.3
20°	915.6	913.2	900.9	884.9	876.3
22.5°	880.0	880.0	865.2	844.3	835.7
25°	846.8	841.9	828.3	798.9	776.7
27.5°	808.7	801.3	786.6	744.8	719.0
30°	766.9	763.2	742.3	688.2	668.6
32.5°	727.6	721.4	699.3	642.8	626.8
35°	687.0	682.1	648.9	599.8	585.0
37.5°	646.5	640.3	598.5	559.2	540.8
40°	605.9	598.5	553.1	517.4	497.7
42.5°	567.8	558.0	513.7	475.6	453.5
45°	527.2	516.2	471.9	432.6	415.4
47.5°	486.7	476.9	436.3	395.7	376.1
50°	443.7	435.1	398.2	357.6	336.7
52.5°	408.0	394.5	358.9	318.3	301.1
55°	366.2	355.2	322.0	283.9	269.2
57.5°	328.1	317.1	286.4	250.7	238.4
60°	292.5	276.5	250.7	220.0	210.2
62.5°	253.2	240.9	218.8	193.0	205.2
65°	217.5	205.2	185.6	189.3	157.3
67.5°	178.2	172.1	154.9	137.6	132.7
70°	145.0	137.6	131.5	113.1	108.2
72.5°	115.5	108.2	99.5	89.7	86.0
75°	87.3	81.1	76.2	72.5	79.9
77.5°	60.2	57.8	54.1	50.4	49.2
80°	39.3	38.1	36.9	35.6	34.4
82.5°	23.4	23.4	23.4	23.4	23.4
85°	12.3	13.5	14.7	16.0	17.2
87.5°	7.4	7.4	8.6	9.8	11.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)