

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: P561020

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-80-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561020
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-80-96-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2086.0 lumens
Efficiency: N/A
Efficacy: 89.1 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

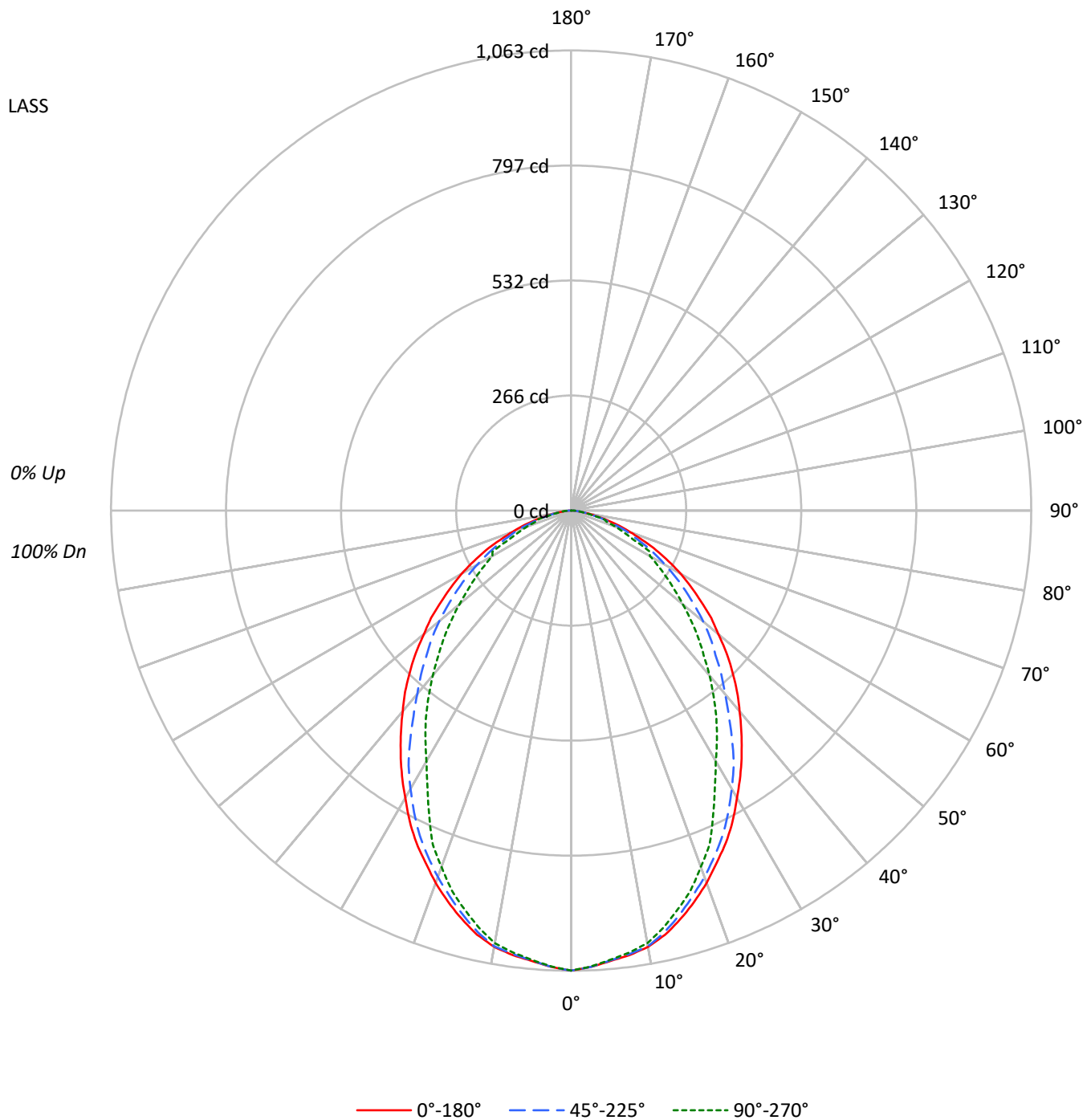
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2859	2859	2859
5°	2821	2817	2814
10°	2796	2793	2773
15°	2721	2693	2656
20°	2621	2578	2508
25°	2513	2458	2305
30°	2382	2306	2077
35°	2256	2131	1921
40°	2127	1942	1748
45°	2006	1795	1580
50°	1857	1666	1409
55°	1718	1510	1262
60°	1574	1349	1131
65°	1384	1181	1001
70°	1141	1034	851
75°	907	792	830
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°	98.9	4.7
10°-20°	271.5	13.0
20°-30°	375.8	18.0
30°-40°	400.7	19.2
40°-50°	365.6	17.5
50°-60°	286.4	13.7
60°-70°	186.7	8.9
70°-80°	82.7	4.0
80°-90°	17.7	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°	746.2	35.8
0°-40°	1146.9	55.0
0°-60°	1798.9	86.2
0°-90°	2086.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2086.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1063	1063	1063	1063	1063	
5°	1044	1043	1043	1042	1042	99
15°	977	977	967	957	953	275
25°	846	842	828	798	776	389
35°	687	682	649	600	585	429
45°	527	516	472	432	415	406
55°	366	355	322	284	269	328
65°	217	205	186	189	157	214
75°	87	81	76	72	80	93
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°	1062.6	1062.6	1062.6	1062.6	1062.6
2.5°	1055.2	1055.2	1055.2	1054.0	1054.0
5°	1044.2	1042.9	1042.9	1041.7	1041.7
7.5°	1035.6	1034.3	1033.1	1031.9	1029.4
10°	1023.3	1023.3	1022.0	1015.9	1014.7
12.5°	1003.6	1002.4	997.5	988.9	986.4
15°	976.6	976.6	966.8	956.9	953.3
17.5°	947.1	945.9	933.6	923.8	918.9
20°	915.2	912.7	900.4	884.5	875.9
22.5°	879.5	879.5	864.8	843.9	835.3
25°	846.4	841.5	828.0	798.5	776.4
27.5°	808.3	800.9	786.2	744.4	718.6
30°	766.5	762.8	742.0	687.9	668.3
32.5°	727.2	721.1	699.0	642.5	626.5
35°	686.7	681.8	648.6	599.5	584.7
37.5°	646.1	640.0	598.2	558.9	540.5
40°	605.6	598.2	552.8	517.2	497.5
42.5°	567.5	557.7	513.5	475.4	453.3
45°	527.0	515.9	471.7	432.4	415.2
47.5°	486.5	476.6	436.1	395.6	375.9
50°	443.5	434.9	398.0	357.5	336.6
52.5°	407.8	394.3	358.7	318.2	301.0
55°	366.1	355.0	321.8	283.8	269.0
57.5°	328.0	316.9	286.2	250.6	238.3
60°	292.4	276.4	250.6	219.9	210.1
62.5°	253.1	240.8	218.7	192.9	205.1
65°	217.4	205.1	185.5	189.2	157.2
67.5°	178.1	172.0	154.8	137.6	132.7
70°	145.0	137.6	131.4	113.0	108.1
72.5°	115.5	108.1	99.5	89.7	86.0
75°	87.2	81.1	76.2	72.5	79.8
77.5°	60.2	57.7	54.1	50.4	49.1
80°	39.3	38.1	36.9	35.6	34.4
82.5°	23.3	23.3	23.3	23.3	23.3
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)