

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: P560958

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-80-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560958
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-80-97-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1983.0 lumens
Efficiency: N/A
Efficacy: 84.7 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

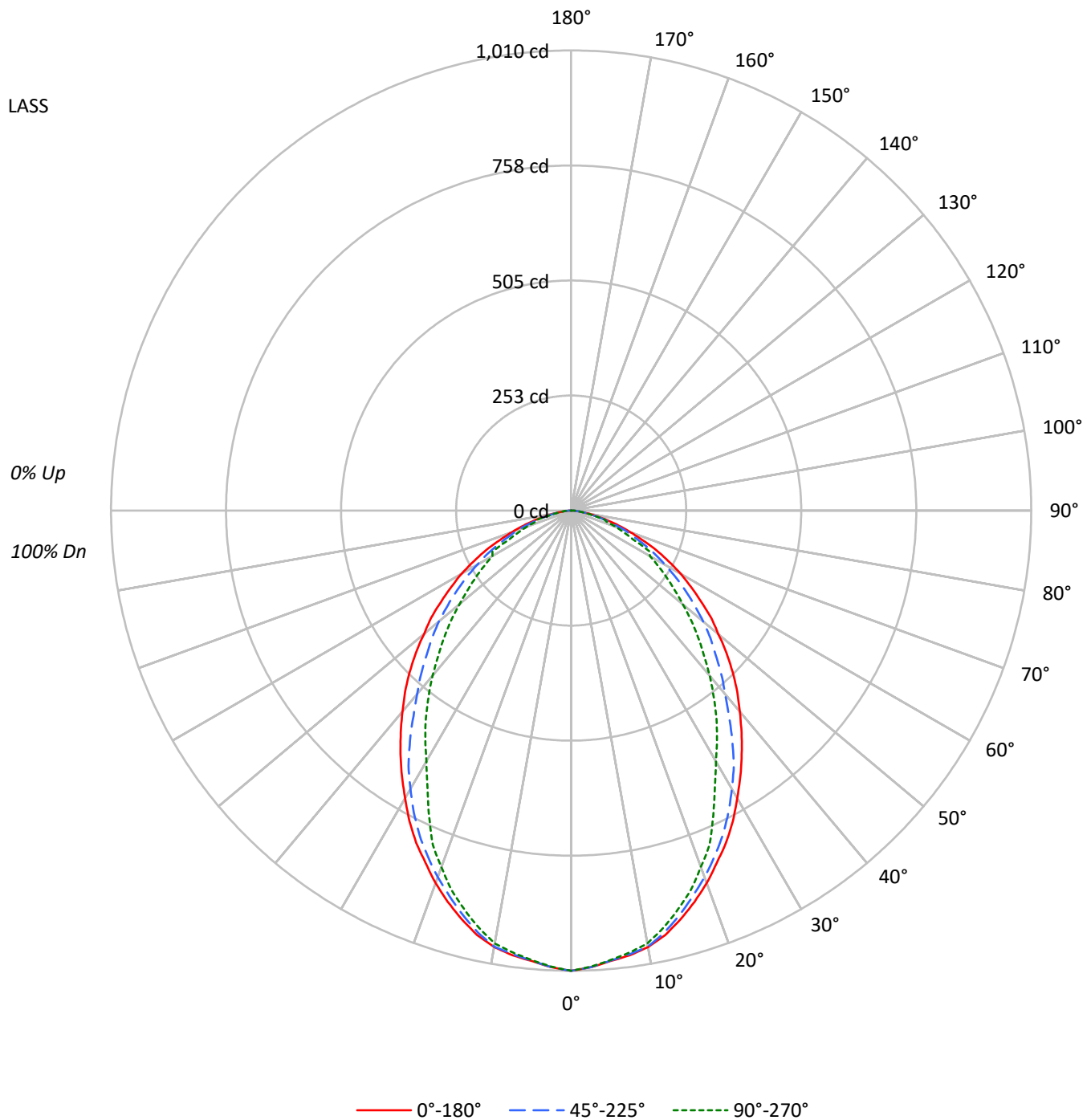
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2718	2718	2718
5°	2681	2678	2675
10°	2658	2655	2636
15°	2586	2560	2525
20°	2491	2451	2384
25°	2389	2337	2191
30°	2264	2192	1974
35°	2144	2026	1826
40°	2022	1846	1661
45°	1907	1706	1502
50°	1765	1584	1340
55°	1633	1436	1200
60°	1496	1282	1075
65°	1316	1123	952
70°	1084	983	809
75°	862	753	789
80°	580	542	507
85°	361	432	503

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1907 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.0	4.7
10°-20°	258.1	13.0
20°-30°	357.3	18.0
30°-40°	380.9	19.2
40°-50°	347.5	17.5
50°-60°	272.3	13.7
60°-70°	177.4	8.9
70°-80°	78.6	4.0
80°-90°	16.9	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°	709.3	35.8
0°-40°	1090.3	55.0
0°-60°	1710.1	86.2
0°-90°	1983.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1983.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1010	1010	1010	1010	1010	
5°	993	991	991	990	990	94
15°	928	928	919	910	906	261
25°	805	800	787	759	738	369
35°	653	648	617	570	556	408
45°	501	490	448	411	395	386
55°	348	338	306	270	256	312
65°	207	195	176	180	150	204
75°	83	77	72	69	76	89
85°	12	13	14	15	16	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1010.1	1010.1	1010.1	1010.1	1010.1
2.5°	1003.1	1003.1	1003.1	1001.9	1001.9
5°	992.6	991.4	991.4	990.3	990.3
7.5°	984.4	983.3	982.1	980.9	978.6
10°	972.7	972.7	971.6	965.7	964.6
12.5°	954.1	952.9	948.2	940.0	937.7
15°	928.4	928.4	919.0	909.7	906.2
17.5°	900.3	899.2	887.5	878.2	873.5
20°	870.0	867.6	856.0	840.8	832.6
22.5°	836.1	836.1	822.1	802.3	794.1
25°	804.6	799.9	787.1	759.0	738.0
27.5°	768.4	761.4	747.4	707.7	683.1
30°	728.7	725.2	705.3	653.9	635.3
32.5°	691.3	685.5	664.5	610.7	595.6
35°	652.8	648.1	616.6	569.9	555.9
37.5°	614.2	608.4	568.7	531.3	513.8
40°	575.7	568.7	525.5	491.6	472.9
42.5°	539.5	530.2	488.1	451.9	430.9
45°	501.0	490.5	448.4	411.1	394.7
47.5°	462.4	453.1	414.6	376.0	357.3
50°	421.6	413.4	378.4	339.8	320.0
52.5°	387.7	374.9	341.0	302.5	286.1
55°	348.0	337.5	306.0	269.8	255.7
57.5°	311.8	301.3	272.1	238.2	226.5
60°	277.9	262.7	238.2	209.0	199.7
62.5°	240.6	228.9	207.9	183.3	195.0
65°	206.7	195.0	176.3	179.8	149.5
67.5°	169.3	163.5	147.1	130.8	126.1
70°	137.8	130.8	125.0	107.4	102.8
72.5°	109.8	102.8	94.6	85.2	81.7
75°	82.9	77.1	72.4	68.9	75.9
77.5°	57.2	54.9	51.4	47.9	46.7
80°	37.4	36.2	35.0	33.9	32.7
82.5°	22.2	22.2	22.2	22.2	22.2
85°	11.7	12.8	14.0	15.2	16.3
87.5°	7.0	7.0	8.2	9.3	10.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)