

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: P560978

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560978
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-82-85-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1892.0 lumens
Efficiency: N/A
Efficacy: 80.9 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

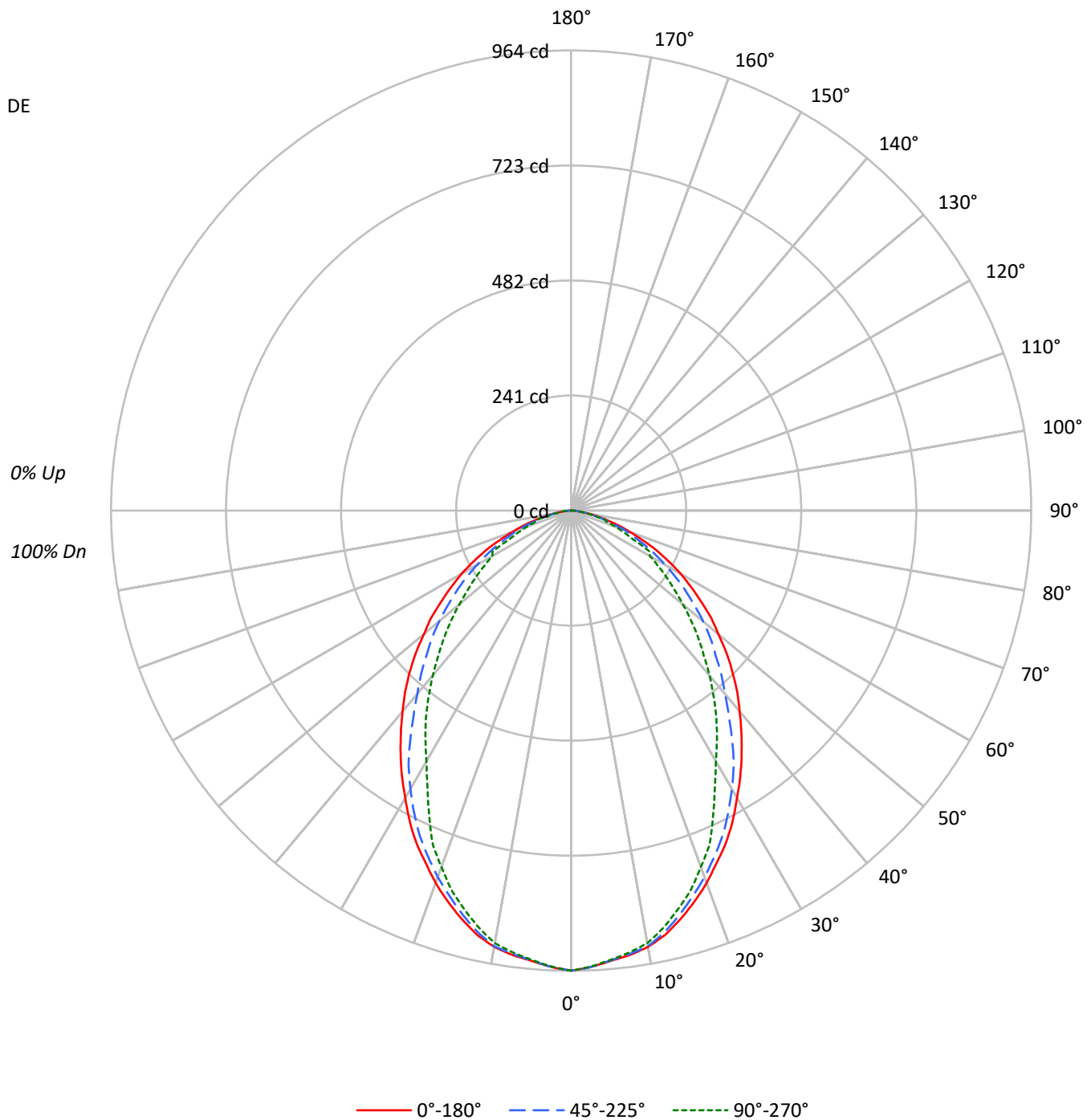
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2594	2594	2594
5°	2558	2555	2552
10°	2536	2533	2515
15°	2468	2443	2409
20°	2377	2339	2275
25°	2279	2230	2091
30°	2160	2091	1883
35°	2046	1933	1742
40°	1930	1761	1585
45°	1819	1628	1433
50°	1684	1511	1278
55°	1558	1369	1145
60°	1427	1223	1025
65°	1256	1071	908
70°	1035	938	771
75°	822	718	753
80°	553	518	483
85°	343	414	482

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1819 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.7	4.7
10°-20°	246.2	13.0
20°-30°	340.9	18.0
30°-40°	363.5	19.2
40°-50°	331.6	17.5
50°-60°	259.8	13.7
60°-70°	169.3	8.9
70°-80°	75.0	4.0
80°-90°	16.1	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°	676.8	35.8
0°-40°	1040.2	55.0
0°-60°	1631.6	86.2
0°-90°	1892.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1892.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	964	964	964	964	964	
5°	947	946	946	945	945	90
15°	886	886	877	868	865	249
25°	768	763	751	724	704	352
35°	623	618	588	544	530	389
45°	478	468	428	392	377	368
55°	332	322	292	257	244	298
65°	197	186	168	172	143	194
75°	79	74	69	66	72	85
85°	11	12	13	14	16	15
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	963.8	963.8	963.8	963.8	963.8
2.5°	957.1	957.1	957.1	956.0	956.0
5°	947.0	945.9	945.9	944.8	944.8
7.5°	939.2	938.1	937.0	935.9	933.7
10°	928.1	928.1	927.0	921.4	920.3
12.5°	910.3	909.2	904.7	896.9	894.7
15°	885.8	885.8	876.9	867.9	864.6
17.5°	859.0	857.9	846.8	837.9	833.4
20°	830.1	827.8	816.7	802.2	794.4
22.5°	797.7	797.7	784.4	765.4	757.6
25°	767.7	763.2	751.0	724.2	704.2
27.5°	733.1	726.4	713.1	675.2	651.8
30°	695.2	691.9	673.0	623.9	606.1
32.5°	659.6	654.0	634.0	582.7	568.2
35°	622.8	618.4	588.3	543.7	530.3
37.5°	586.1	580.5	542.6	506.9	490.2
40°	549.3	542.6	501.4	469.1	451.2
42.5°	514.7	505.8	465.7	431.2	411.1
45°	478.0	468.0	427.8	392.2	376.6
47.5°	441.2	432.3	395.5	358.8	340.9
50°	402.2	394.4	361.0	324.2	305.3
52.5°	369.9	357.6	325.3	288.6	273.0
55°	332.0	322.0	291.9	257.4	244.0
57.5°	297.5	287.5	259.6	227.3	216.1
60°	265.2	250.7	227.3	199.4	190.5
62.5°	229.5	218.4	198.3	174.9	186.1
65°	197.2	186.1	168.2	171.6	142.6
67.5°	161.6	156.0	140.4	124.8	120.3
70°	131.5	124.8	119.2	102.5	98.0
72.5°	104.7	98.0	90.2	81.3	78.0
75°	79.1	73.5	69.1	65.7	72.4
77.5°	54.6	52.4	49.0	45.7	44.6
80°	35.7	34.5	33.4	32.3	31.2
82.5°	21.2	21.2	21.2	21.2	21.2
85°	11.1	12.3	13.4	14.5	15.6
87.5°	6.7	6.7	7.8	8.9	10.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)