

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: P560984

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560984
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-82-88-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1630.0 lumens
Efficiency: N/A
Efficacy: 69.7 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

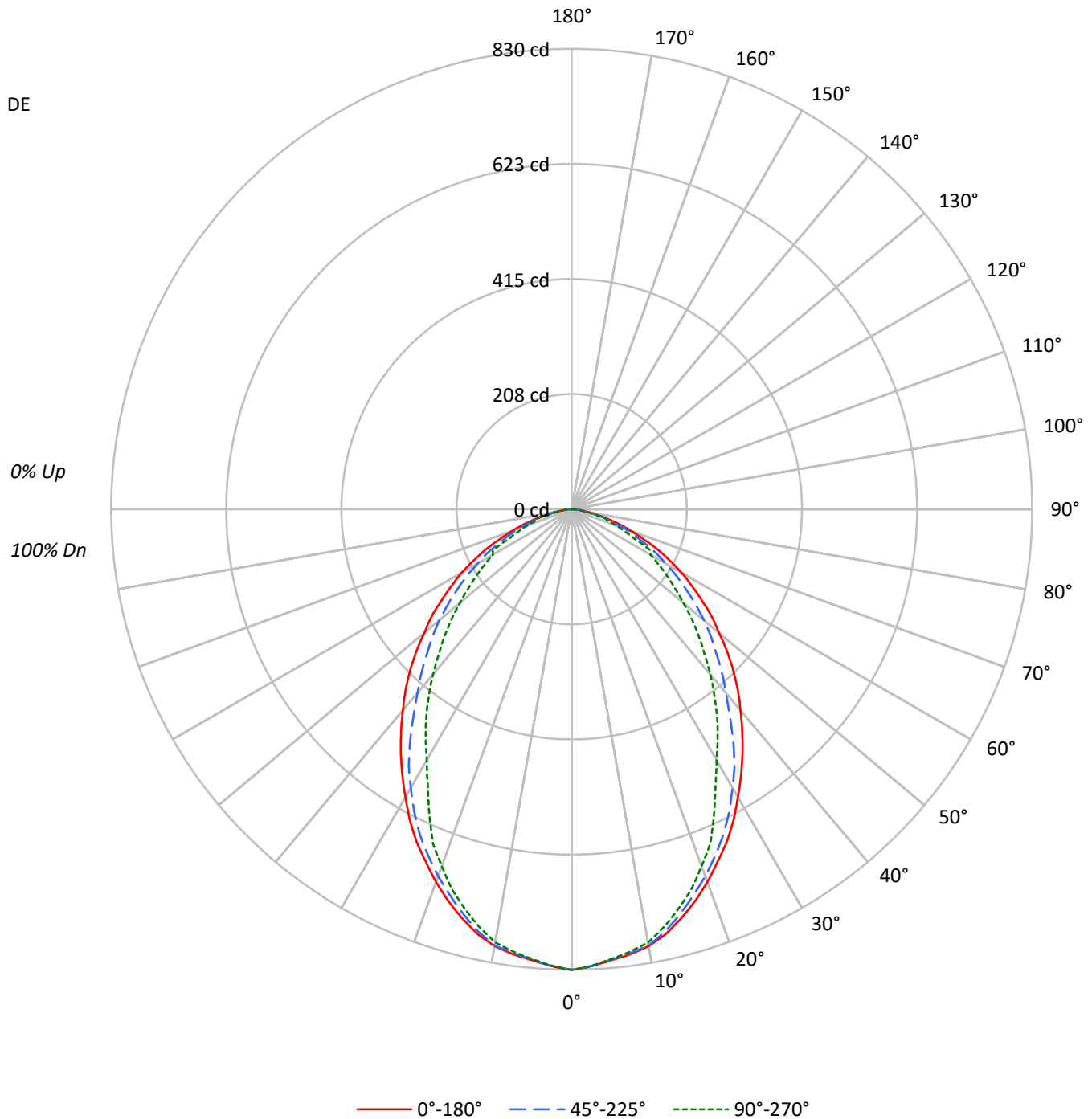
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2234	2234	2234
5°	2204	2201	2199
10°	2185	2182	2167
15°	2126	2104	2075
20°	2048	2015	1960
25°	1964	1921	1801
30°	1861	1802	1623
35°	1763	1665	1501
40°	1662	1517	1366
45°	1567	1403	1235
50°	1451	1302	1101
55°	1342	1180	986
60°	1230	1054	883
65°	1082	923	783
70°	891	808	665
75°	709	619	649
80°	476	446	417
85°	296	355	414

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1567 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.3	4.7
10°-20°	212.1	13.0
20°-30°	293.7	18.0
30°-40°	313.1	19.2
40°-50°	285.7	17.5
50°-60°	223.8	13.7
60°-70°	145.9	8.9
70°-80°	64.6	4.0
80°-90°	13.9	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°	583.1	35.8
0°-40°	896.2	55.0
0°-60°	1405.6	86.2
0°-90°	1630.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1630.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	830	830	830	830	830	
5°	816	815	815	814	814	77
15°	763	763	755	748	745	215
25°	661	658	647	624	607	304
35°	537	533	507	468	457	335
45°	412	403	369	338	324	317
55°	286	277	252	222	210	257
65°	170	160	145	148	123	167
75°	68	63	60	57	62	73
85°	10	11	12	12	13	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	830.3	830.3	830.3	830.3	830.3
2.5°	824.5	824.5	824.5	823.6	823.6
5°	815.9	814.9	814.9	814.0	814.0
7.5°	809.2	808.2	807.3	806.3	804.4
10°	799.6	799.6	798.6	793.8	792.9
12.5°	784.2	783.3	779.4	772.7	770.8
15°	763.1	763.1	755.4	747.8	744.9
17.5°	740.1	739.1	729.5	721.8	718.0
20°	715.1	713.2	703.6	691.1	684.4
22.5°	687.3	687.3	675.8	659.4	652.7
25°	661.4	657.5	647.0	623.9	606.6
27.5°	631.6	625.8	614.3	581.7	561.5
30°	599.0	596.1	579.8	537.5	522.2
32.5°	568.3	563.5	546.2	502.0	489.5
35°	536.6	532.7	506.8	468.4	456.9
37.5°	504.9	500.1	467.5	436.7	422.3
40°	473.2	467.5	431.9	404.1	388.8
42.5°	443.5	435.8	401.2	371.5	354.2
45°	411.8	403.2	368.6	337.9	324.4
47.5°	380.1	372.4	340.8	309.1	293.7
50°	346.5	339.8	311.0	279.3	263.0
52.5°	318.7	308.1	280.3	248.6	235.2
55°	286.0	277.4	251.5	221.7	210.2
57.5°	256.3	247.7	223.7	195.8	186.2
60°	228.5	216.0	195.8	171.8	164.1
62.5°	197.7	188.1	170.9	150.7	160.3
65°	169.9	160.3	144.9	147.8	122.9
67.5°	139.2	134.4	120.9	107.5	103.7
70°	113.3	107.5	102.7	88.3	84.5
72.5°	90.2	84.5	77.8	70.1	67.2
75°	68.2	63.4	59.5	56.6	62.4
77.5°	47.0	45.1	42.2	39.4	38.4
80°	30.7	29.8	28.8	27.8	26.9
82.5°	18.2	18.2	18.2	18.2	18.2
85°	9.6	10.6	11.5	12.5	13.4
87.5°	5.8	5.8	6.7	7.7	8.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)