

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: P560484

Luminaire Tested: FSR-12-2-LD4-2LO-40-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560484
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-12-2-LD4-2LO-40-UNV-93-86-EDD-90
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1877.0 lumens
Efficiency: N/A
Efficacy: 80.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

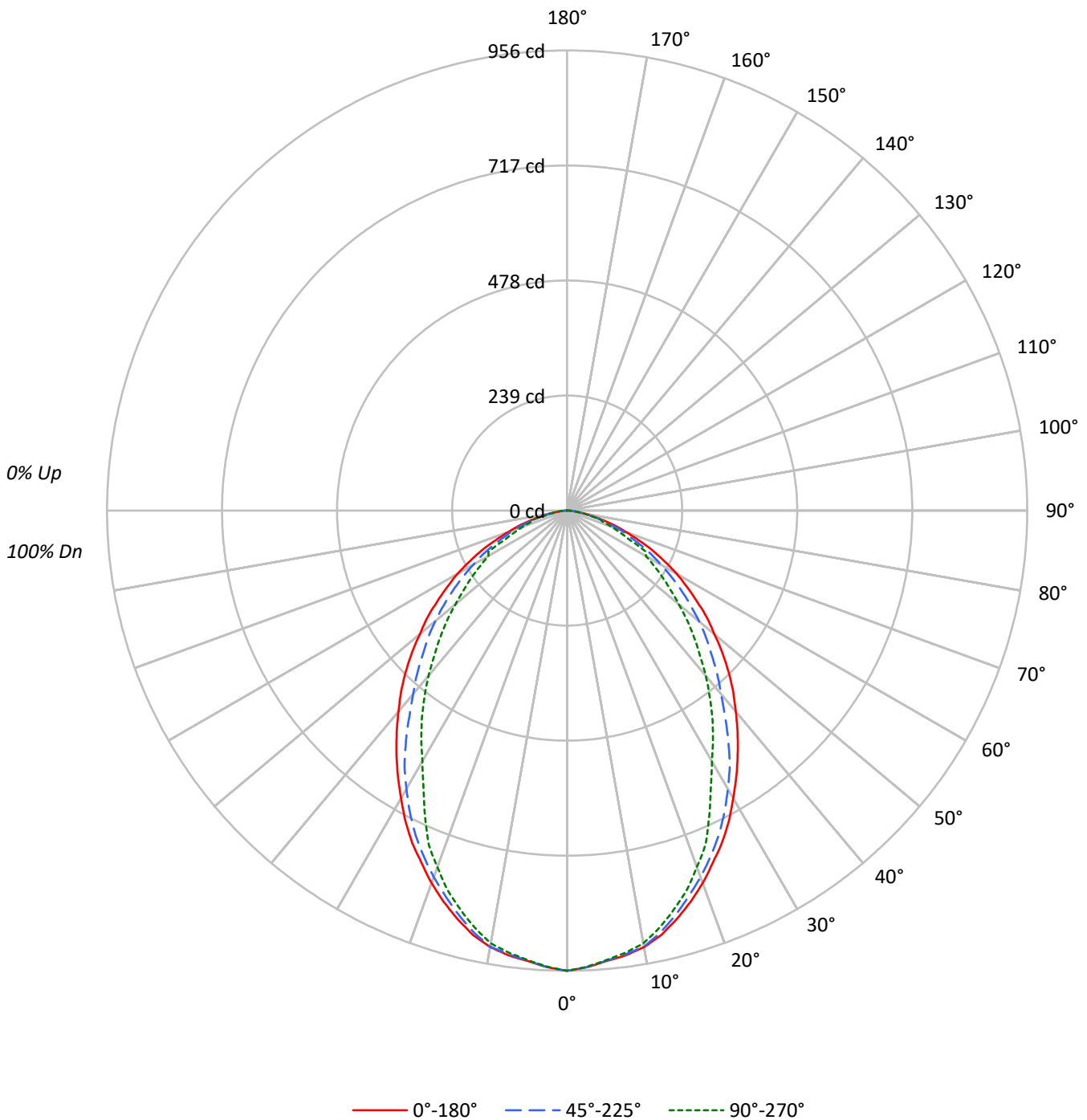
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5146	5146	5146
5°	5076	5070	5064
10°	5032	5026	4990
15°	4896	4847	4779
20°	4716	4640	4514
25°	4523	4424	4149
30°	4286	4149	3737
35°	4060	3834	3457
40°	3828	3495	3145
45°	3609	3231	2844
50°	3341	2998	2536
55°	3091	2717	2272
60°	2832	2427	2034
65°	2491	2125	1802
70°	2052	1862	1531
75°	1632	1424	1493
80°	1097	1029	958
85°	685	821	957

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3609 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.0	4.7
10°-20°	244.3	13.0
20°-30°	338.2	18.0
30°-40°	360.6	19.2
40°-50°	329.0	17.5
50°-60°	257.7	13.7
60°-70°	168.0	8.9
70°-80°	74.4	4.0
80°-90°	16.0	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°	671.4	35.8
0°-40°	1032.0	55.0
0°-60°	1618.6	86.2
0°-90°	1877.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1877.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	956	956	956	956	956	
5°	940	938	938	937	937	89
15°	879	879	870	861	858	247
25°	762	757	745	718	699	350
35°	618	614	584	539	526	386
45°	474	464	424	389	374	365
55°	329	319	290	255	242	295
65°	196	185	167	170	142	193
75°	78	73	68	65	72	84
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°	956.1	956.1	956.1	956.1	956.1
2.5°	949.5	949.5	949.5	948.4	948.4
5°	939.5	938.4	938.4	937.3	937.3
7.5°	931.8	930.7	929.6	928.5	926.3
10°	920.7	920.7	919.6	914.1	913.0
12.5°	903.1	902.0	897.5	889.8	887.6
15°	878.7	878.7	869.9	861.1	857.7
17.5°	852.2	851.1	840.1	831.2	826.8
20°	823.5	821.3	810.2	795.8	788.1
22.5°	791.4	791.4	778.2	759.4	751.6
25°	761.6	757.2	745.0	718.5	698.6
27.5°	727.3	720.7	707.4	669.8	646.6
30°	689.7	686.4	667.6	619.0	601.3
32.5°	654.4	648.8	628.9	578.1	563.7
35°	617.9	613.5	583.6	539.4	526.1
37.5°	581.4	575.9	538.3	502.9	486.3
40°	544.9	538.3	497.4	465.3	447.7
42.5°	510.7	501.8	462.0	427.8	407.9
45°	474.2	464.2	424.5	389.1	373.6
47.5°	437.7	428.9	392.4	355.9	338.2
50°	399.0	391.3	358.1	321.7	302.9
52.5°	367.0	354.8	322.8	286.3	270.8
55°	329.4	319.4	289.6	255.3	242.1
57.5°	295.1	285.2	257.5	225.5	214.4
60°	263.1	248.7	225.5	197.9	189.0
62.5°	227.7	216.6	196.8	173.5	184.6
65°	195.6	184.6	166.9	170.2	141.5
67.5°	160.3	154.7	139.3	123.8	119.4
70°	130.4	123.8	118.3	101.7	97.3
72.5°	103.9	97.3	89.5	80.7	77.4
75°	78.5	73.0	68.5	65.2	71.8
77.5°	54.2	52.0	48.6	45.3	44.2
80°	35.4	34.3	33.2	32.1	30.9
82.5°	21.0	21.0	21.0	21.0	21.0
85°	11.1	12.2	13.3	14.4	15.5
87.5°	6.6	6.6	7.7	8.8	9.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)