

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: P559694

Luminaire Tested: FSR-12-2-LD4-1HI-40-UNV-81-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559694
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-LD4-1HI-40-UNV-81-97-EDD-90
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1442.0 lumens
Efficiency: N/A
Efficacy: 66.8 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

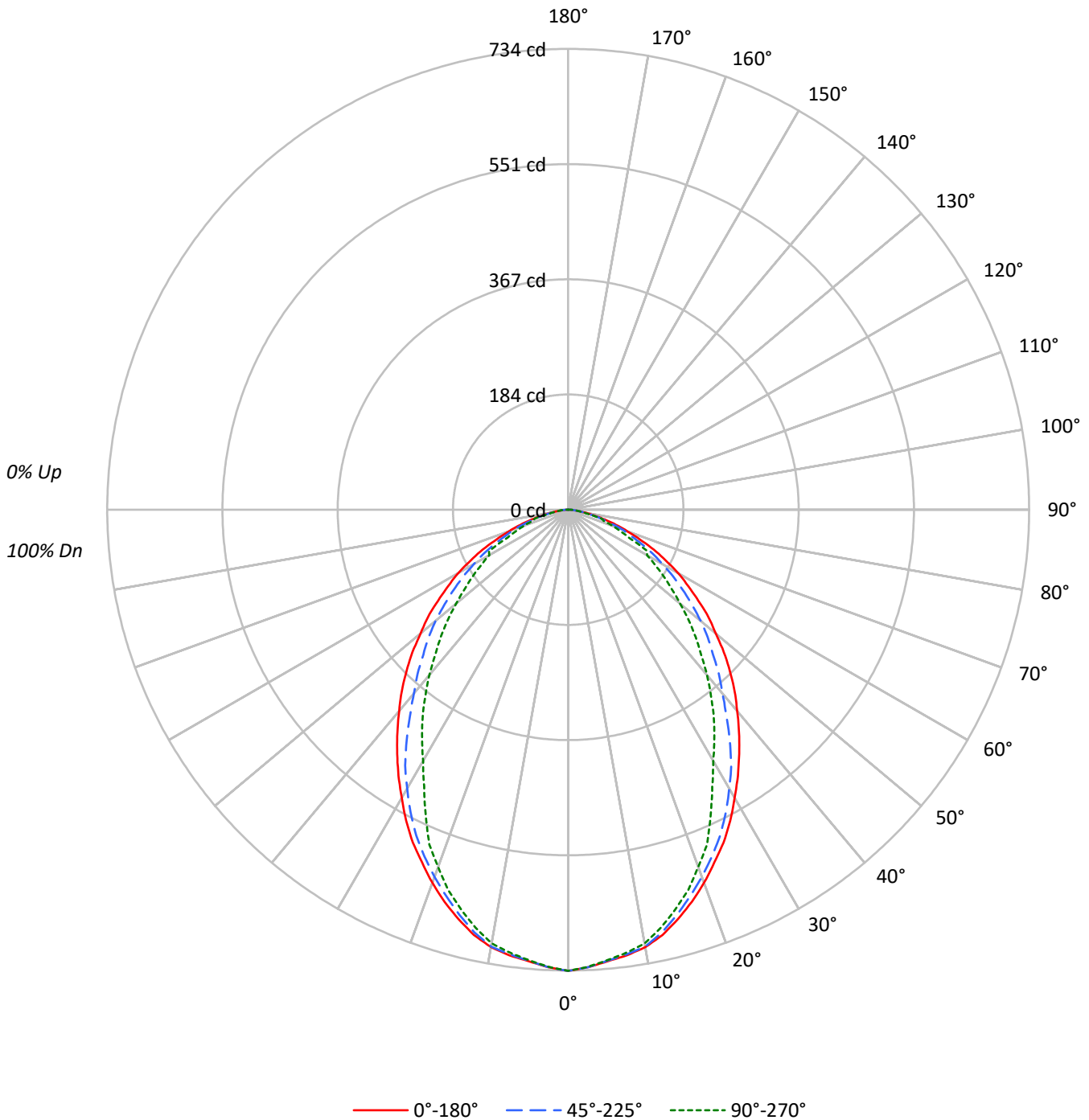
Input Watts (W): 21.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3953	3953	3953
5°	3900	3895	3890
10°	3866	3861	3833
15°	3762	3724	3672
20°	3623	3565	3468
25°	3475	3399	3187
30°	3293	3187	2871
35°	3119	2946	2656
40°	2941	2684	2416
45°	2773	2482	2184
50°	2567	2303	1948
55°	2375	2088	1745
60°	2175	1864	1563
65°	1914	1633	1384
70°	1577	1430	1175
75°	1254	1094	1148
80°	843	790	738
85°	525	630	735

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2773 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.4	4.7
10°-20°	187.7	13.0
20°-30°	259.8	18.0
30°-40°	277.0	19.2
40°-50°	252.7	17.5
50°-60°	198.0	13.7
60°-70°	129.0	8.9
70°-80°	57.2	4.0
80°-90°	12.3	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°	515.8	35.8
0°-40°	792.8	55.0
0°-60°	1243.5	86.2
0°-90°	1442.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1442.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	734	734	734	734	734	
5°	722	721	721	720	720	69
15°	675	675	668	662	659	190
25°	585	582	572	552	537	269
35°	475	471	448	414	404	297
45°	364	357	326	299	287	281
55°	253	245	222	196	186	227
65°	150	142	128	131	109	148
75°	60	56	53	50	55	65
85°	8	9	10	11	12	12
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	734.5	734.5	734.5	734.5	734.5
2.5°	729.4	729.4	729.4	728.6	728.6
5°	721.8	720.9	720.9	720.1	720.1
7.5°	715.9	715.0	714.2	713.3	711.6
10°	707.4	707.4	706.5	702.3	701.4
12.5°	693.8	692.9	689.5	683.6	681.9
15°	675.1	675.1	668.3	661.5	659.0
17.5°	654.7	653.9	645.4	638.6	635.2
20°	632.6	630.9	622.4	611.4	605.5
22.5°	608.0	608.0	597.8	583.4	577.4
25°	585.1	581.7	572.3	552.0	536.7
27.5°	558.8	553.7	543.5	514.6	496.8
30°	529.9	527.3	512.9	475.5	462.0
32.5°	502.7	498.5	483.2	444.1	433.1
35°	474.7	471.3	448.4	414.4	404.2
37.5°	446.7	442.4	413.5	386.4	373.6
40°	418.6	413.5	382.1	357.5	343.9
42.5°	392.3	385.5	355.0	328.6	313.3
45°	364.3	356.7	326.1	298.9	287.0
47.5°	336.3	329.5	301.5	273.4	259.8
50°	306.6	300.6	275.1	247.1	232.7
52.5°	281.9	272.6	248.0	219.9	208.0
55°	253.1	245.4	222.5	196.2	186.0
57.5°	226.7	219.1	197.9	173.2	164.7
60°	202.1	191.1	173.2	152.0	145.2
62.5°	174.9	166.4	151.2	133.3	141.8
65°	150.3	141.8	128.2	130.8	108.7
67.5°	123.1	118.9	107.0	95.1	91.7
70°	100.2	95.1	90.9	78.1	74.7
72.5°	79.8	74.7	68.8	62.0	59.4
75°	60.3	56.0	52.6	50.1	55.2
77.5°	41.6	39.9	37.4	34.8	34.0
80°	27.2	26.3	25.5	24.6	23.8
82.5°	16.1	16.1	16.1	16.1	16.1
85°	8.5	9.3	10.2	11.0	11.9
87.5°	5.1	5.1	5.9	6.8	7.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)