

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: P559144

Luminaire Tested: FSR-12-1-LD4-2HI-40-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559144
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-12-1-LD4-2HI-40-UNV-93-88-EDD-90
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1386.0 lumens
Efficiency: N/A
Efficacy: 64.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
CIE Type: Direct

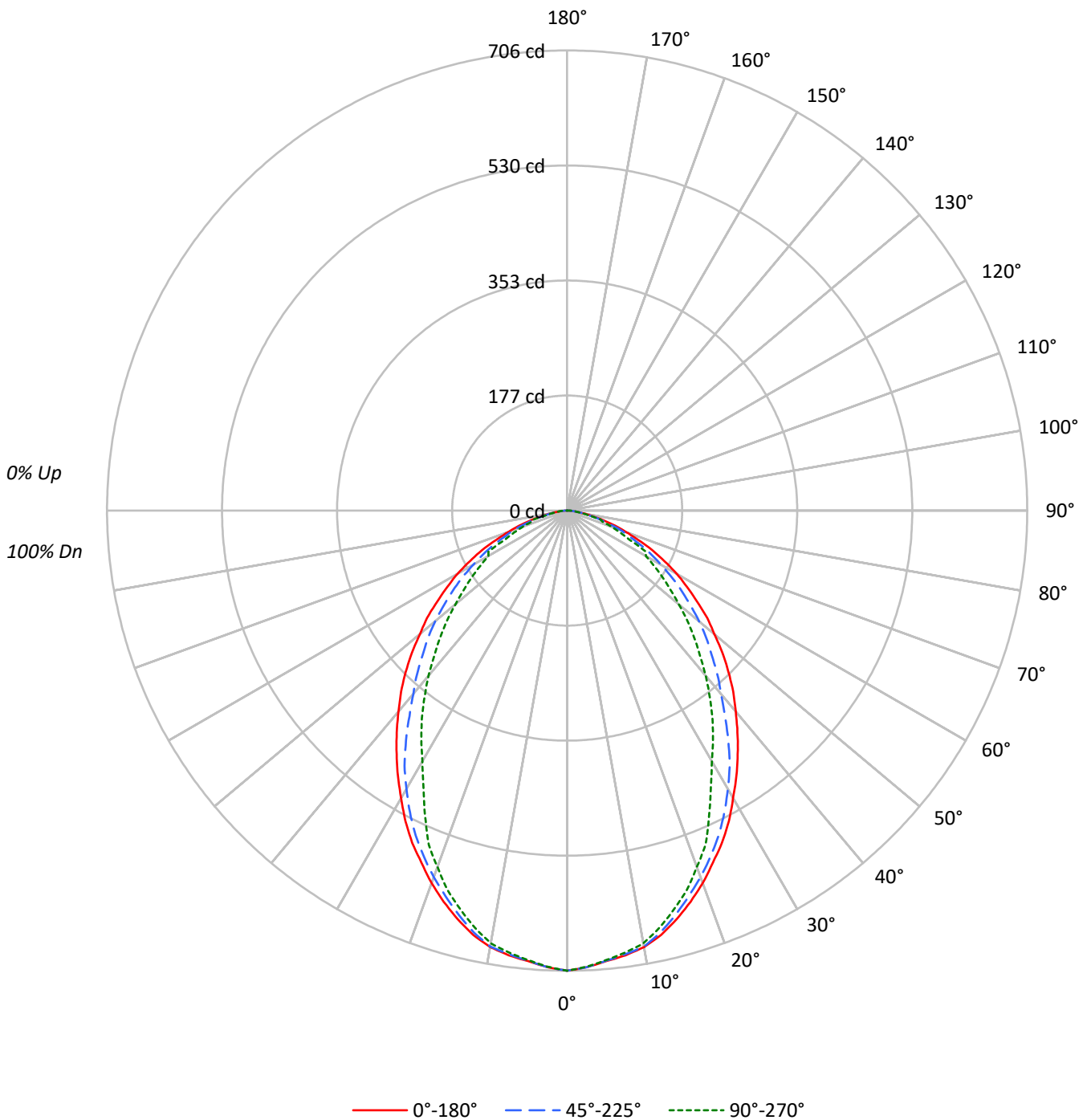
Input Watts (W): 21.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7599	7599	7599
5°	7497	7488	7478
10°	7431	7423	7369
15°	7231	7158	7058
20°	6966	6853	6666
25°	6679	6533	6126
30°	6330	6128	5519
35°	5996	5663	5105
40°	5654	5161	4645
45°	5329	4771	4200
50°	4933	4428	3744
55°	4564	4012	3354
60°	4183	3584	3005
65°	3680	3138	2662
70°	3031	2747	2260
75°	2408	2104	2208
80°	1618	1519	1420
85°	1013	1210	1408

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5329 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.7	4.7
10°-20°	180.4	13.0
20°-30°	249.7	18.0
30°-40°	266.3	19.2
40°-50°	242.9	17.5
50°-60°	190.3	13.7
60°-70°	124.0	8.9
70°-80°	55.0	4.0
80°-90°	11.8	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°	495.8	35.8
0°-40°	762.0	55.0
0°-60°	1195.2	86.2
0°-90°	1386.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1386.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	706	706	706	706	706	
5°	694	693	693	692	692	66
15°	649	649	642	636	633	182
25°	562	559	550	530	516	258
35°	456	453	431	398	388	285
45°	350	343	313	287	276	270
55°	243	236	214	188	179	218
65°	144	136	123	126	104	142
75°	58	54	51	48	53	62
85°	8	9	10	11	11	11
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	706.0	706.0	706.0	706.0	706.0
2.5°	701.1	701.1	701.1	700.3	700.3
5°	693.8	693.0	693.0	692.1	692.1
7.5°	688.1	687.2	686.4	685.6	684.0
10°	679.9	679.9	679.1	675.0	674.2
12.5°	666.8	666.0	662.8	657.0	655.4
15°	648.9	648.9	642.3	635.8	633.4
17.5°	629.3	628.5	620.3	613.8	610.5
20°	608.1	606.4	598.3	587.7	581.9
22.5°	584.4	584.4	574.6	560.7	555.0
25°	562.4	559.1	550.1	530.5	515.8
27.5°	537.1	532.2	522.4	494.6	477.5
30°	509.3	506.9	493.0	457.1	444.0
32.5°	483.2	479.1	464.4	426.9	416.3
35°	456.3	453.0	431.0	398.3	388.5
37.5°	429.3	425.2	397.5	371.4	359.1
40°	402.4	397.5	367.3	343.6	330.6
42.5°	377.1	370.6	341.2	315.9	301.2
45°	350.1	342.8	313.4	287.3	275.9
47.5°	323.2	316.7	289.7	262.8	249.8
50°	294.6	288.9	264.4	237.5	223.6
52.5°	271.0	262.0	238.3	211.4	200.0
55°	243.2	235.9	213.8	188.5	178.7
57.5°	217.9	210.6	190.2	166.5	158.3
60°	194.3	183.6	166.5	146.1	139.6
62.5°	168.1	160.0	145.3	128.1	136.3
65°	144.5	136.3	123.2	125.7	104.5
67.5°	118.3	114.3	102.8	91.4	88.1
70°	96.3	91.4	87.3	75.1	71.8
72.5°	76.7	71.8	66.1	59.6	57.1
75°	57.9	53.9	50.6	48.2	53.1
77.5°	40.0	38.4	35.9	33.5	32.6
80°	26.1	25.3	24.5	23.7	22.9
82.5°	15.5	15.5	15.5	15.5	15.5
85°	8.2	9.0	9.8	10.6	11.4
87.5°	4.9	4.9	5.7	6.5	7.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)