

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: P559136

Luminaire Tested: FSR-12-1-LD4-2HI-40-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P559136
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-93-84-EDD-90
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1641.0 lumens
Efficiency: N/A
Efficacy: 76.0 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

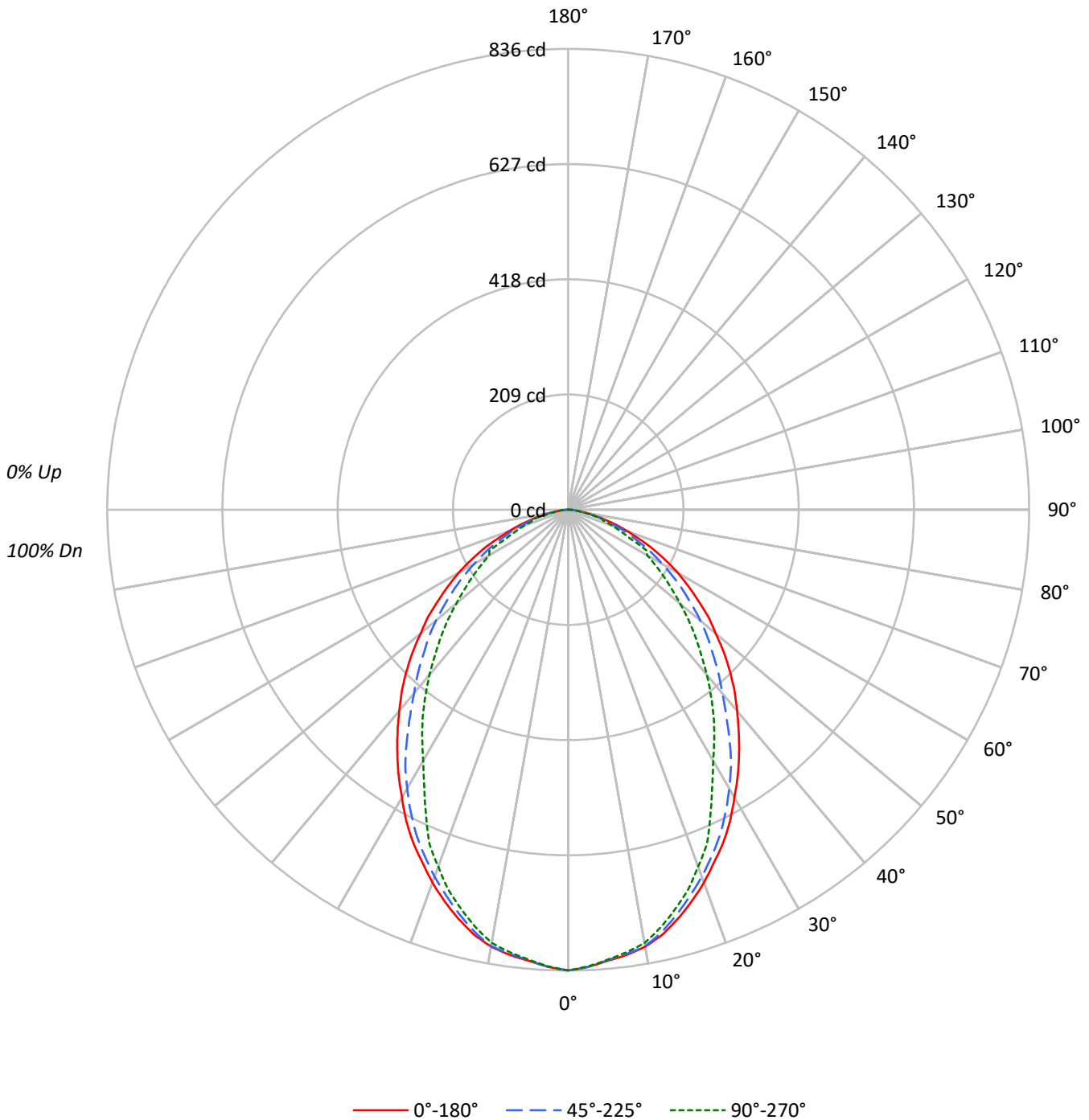
Input Watts (W): 21.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8998	8998	8998
5°	8875	8864	8855
10°	8799	8788	8724
15°	8562	8475	8357
20°	8246	8113	7892
25°	7907	7735	7253
30°	7495	7255	6534
35°	7098	6704	6045
40°	6694	6111	5500
45°	6311	5649	4972
50°	5843	5243	4434
55°	5405	4752	3971
60°	4951	4243	3556
65°	4355	3716	3151
70°	3588	3254	2675
75°	2853	2491	2612
80°	1915	1798	1680
85°	1198	1433	1667

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6311 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.8	4.7
10°-20°	213.5	13.0
20°-30°	295.6	18.0
30°-40°	315.2	19.2
40°-50°	287.6	17.5
50°-60°	225.3	13.7
60°-70°	146.8	8.9
70°-80°	65.0	4.0
80°-90°	14.0	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°	587.0	35.8
0°-40°	902.2	55.0
0°-60°	1415.1	86.2
0°-90°	1641.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1641.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	836	836	836	836	836	
5°	821	820	820	820	820	78
15°	768	768	760	753	750	216
25°	666	662	651	628	611	306
35°	540	536	510	472	460	338
45°	415	406	371	340	327	319
55°	288	279	253	223	212	258
65°	171	161	146	149	124	169
75°	69	64	60	57	63	74
85°	10	11	12	13	14	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	835.9	835.9	835.9	835.9	835.9
2.5°	830.1	830.1	830.1	829.1	829.1
5°	821.4	820.4	820.4	819.5	819.5
7.5°	814.6	813.7	812.7	811.7	809.8
10°	805.0	805.0	804.0	799.2	798.2
12.5°	789.5	788.6	784.7	777.9	776.0
15°	768.3	768.3	760.5	752.8	749.9
17.5°	745.1	744.1	734.4	726.7	722.8
20°	719.9	718.0	708.3	695.8	689.0
22.5°	691.9	691.9	680.3	663.9	657.1
25°	665.8	662.0	651.3	628.1	610.7
27.5°	635.9	630.1	618.5	585.6	565.3
30°	603.0	600.1	583.7	541.2	525.7
32.5°	572.1	567.3	549.9	505.4	492.8
35°	540.2	536.3	510.2	471.6	460.0
37.5°	508.3	503.5	470.6	439.7	425.2
40°	476.4	470.6	434.9	406.8	391.4
42.5°	446.5	438.7	403.9	374.0	356.6
45°	414.6	405.9	371.1	340.2	326.6
47.5°	382.7	374.9	343.1	311.2	295.7
50°	348.9	342.1	313.1	281.2	264.8
52.5°	320.8	310.2	282.2	250.3	236.8
55°	288.0	279.3	253.2	223.2	211.6
57.5°	258.0	249.3	225.2	197.1	187.5
60°	230.0	217.4	197.1	173.0	165.2
62.5°	199.1	189.4	172.0	151.7	161.4
65°	171.0	161.4	145.9	148.8	123.7
67.5°	140.1	135.3	121.8	108.2	104.4
70°	114.0	108.2	103.4	88.9	85.0
72.5°	90.8	85.0	78.3	70.5	67.6
75°	68.6	63.8	59.9	57.0	62.8
77.5°	47.4	45.4	42.5	39.6	38.7
80°	30.9	30.0	29.0	28.0	27.1
82.5°	18.4	18.4	18.4	18.4	18.4
85°	9.7	10.6	11.6	12.6	13.5
87.5°	5.8	5.8	6.8	7.7	8.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)