

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: P559150

Luminaire Tested: FSR-12-1-LD4-2HI-40-UNV-93-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559150  
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-93-97-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

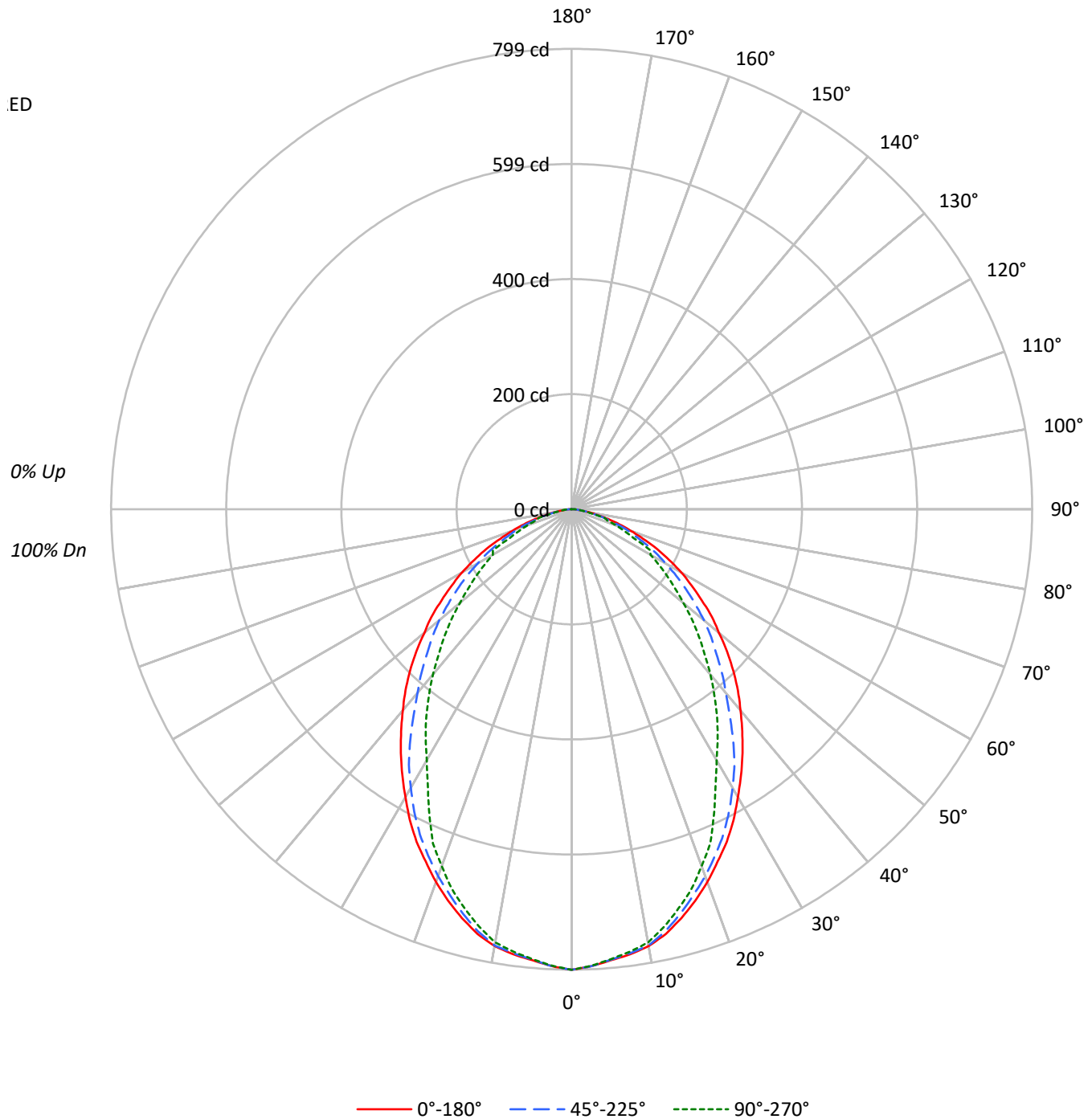
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1569.0 lumens  
Efficiency: N/A  
Efficacy: 72.6 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	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°	8603	8603	8603
5°	8486	8475	8466
10°	8413	8402	8342
15°	8186	8104	7990
20°	7885	7758	7546
25°	7561	7397	6935
30°	7167	6937	6247
35°	6787	6411	5779
40°	6400	5843	5258
45°	6034	5401	4754
50°	5586	5014	4240
55°	5166	4543	3796
60°	4734	4058	3401
65°	4164	3553	3013
70°	3430	3113	2559
75°	2728	2383	2499
80°	1835	1717	1605
85°	1136	1371	1593

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6034 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.4	4.7
10°-20°	204.2	13.0
20°-30°	282.7	18.0
30°-40°	301.4	19.2
40°-50°	275.0	17.5
50°-60°	215.4	13.7
60°-70°	140.4	8.9
70°-80°	62.2	4.0
80°-90°	13.4	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°	561.3	35.8
0°-40°	862.7	55.0
0°-60°	1353.1	86.2
0°-90°	1569.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1569.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	799	799	799	799	799	
5°	785	784	784	784	784	75
15°	735	735	727	720	717	207
25°	637	633	623	601	584	292
35°	516	513	488	451	440	323
45°	396	388	355	325	312	305
55°	275	267	242	213	202	247
65°	164	154	140	142	118	161
75°	66	61	57	54	60	70
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	799.2	799.2	799.2	799.2	799.2
2.5°	793.7	793.7	793.7	792.8	792.8
5°	785.4	784.4	784.4	783.5	783.5
7.5°	778.9	778.0	777.1	776.1	774.3
10°	769.7	769.7	768.7	764.1	763.2
12.5°	754.9	754.0	750.3	743.8	741.9
15°	734.6	734.6	727.2	719.8	717.0
17.5°	712.4	711.5	702.2	694.8	691.1
20°	688.4	686.5	677.3	665.3	658.8
22.5°	661.6	661.6	650.5	634.8	628.3
25°	636.6	632.9	622.8	600.6	583.9
27.5°	608.0	602.4	591.3	559.9	540.5
30°	576.6	573.8	558.1	517.4	502.6
32.5°	547.0	542.4	525.7	483.2	471.2
35°	516.5	512.8	487.9	450.9	439.8
37.5°	486.0	481.4	450.0	420.4	406.5
40°	455.5	450.0	415.8	389.0	374.2
42.5°	426.9	419.5	386.2	357.6	340.9
45°	396.4	388.1	354.8	325.2	312.3
47.5°	365.9	358.5	328.0	297.5	282.7
50°	333.6	327.1	299.4	268.9	253.2
52.5°	306.8	296.6	269.8	239.3	226.4
55°	275.3	267.0	242.1	213.4	202.3
57.5°	246.7	238.4	215.3	188.5	179.2
60°	219.9	207.9	188.5	165.4	158.0
62.5°	190.3	181.1	164.5	145.1	154.3
65°	163.5	154.3	139.5	142.3	118.3
67.5°	134.0	129.4	116.4	103.5	99.8
70°	109.0	103.5	98.9	85.0	81.3
72.5°	86.9	81.3	74.8	67.4	64.7
75°	65.6	61.0	57.3	54.5	60.1
77.5°	45.3	43.4	40.7	37.9	37.0
80°	29.6	28.6	27.7	26.8	25.9
82.5°	17.6	17.6	17.6	17.6	17.6
85°	9.2	10.2	11.1	12.0	12.9
87.5°	5.5	5.5	6.5	7.4	8.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)