

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: P559147

Luminaire Tested: FSR-12-1-LD4-2HI-40-UNV-93-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559147  
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-93-94-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

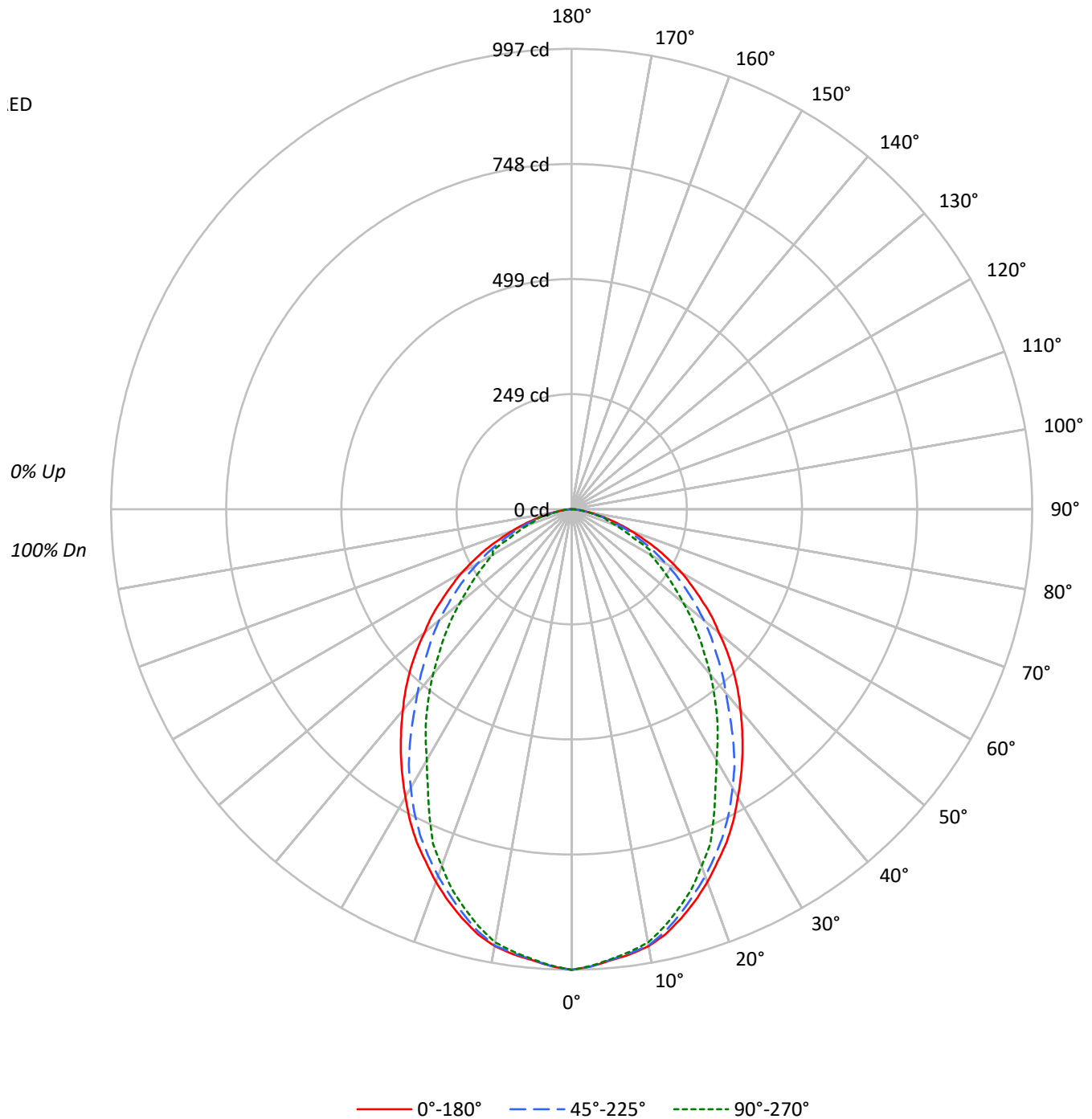
Lumens per Lamp: N/A  
Luminaire Lumens: 1958.0 lumens  
Efficiency: N/A  
Efficacy: 90.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	10736	10736	10736
5°	10590	10577	10565
10°	10498	10485	10410
15°	10215	10112	9971
20°	9840	9682	9417
25°	9435	9229	8655
30°	8943	8656	7797
35°	8469	8000	7211
40°	7987	7291	6562
45°	7531	6741	5932
50°	6970	6256	5290
55°	6448	5669	4738
60°	5907	5063	4245
65°	5198	4434	3759
70°	4283	3884	3194
75°	3406	2974	3115
80°	2287	2145	2002
85°	1420	1704	1988

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7531 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.8	4.7
10°-20°	254.8	13.0
20°-30°	352.7	18.0
30°-40°	376.1	19.2
40°-50°	343.1	17.5
50°-60°	268.8	13.7
60°-70°	175.2	8.9
70°-80°	77.6	4.0
80°-90°	16.7	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°	700.4	35.8
0°-40°	1076.5	55.0
0°-60°	1688.5	86.2
0°-90°	1958.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1958.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	997	997	997	997	997	
5°	980	979	979	978	978	93
15°	917	917	907	898	895	258
25°	794	790	777	750	729	365
35°	644	640	609	563	549	403
45°	495	484	443	406	390	381
55°	344	333	302	266	252	308
65°	204	193	174	178	148	201
75°	82	76	72	68	75	88
85°	12	13	14	15	16	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	997.4	997.4	997.4	997.4	997.4
2.5°	990.5	990.5	990.5	989.3	989.3
5°	980.1	978.9	978.9	977.8	977.8
7.5°	972.0	970.9	969.7	968.6	966.2
10°	960.5	960.5	959.3	953.6	952.4
12.5°	942.0	940.9	936.3	928.2	925.9
15°	916.7	916.7	907.4	898.2	894.8
17.5°	889.0	887.8	876.3	867.1	862.5
20°	859.0	856.7	845.2	830.2	822.1
22.5°	825.6	825.6	811.7	792.1	784.1
25°	794.4	789.8	777.1	749.5	728.7
27.5°	758.7	751.8	737.9	698.7	674.5
30°	719.5	716.0	696.4	645.7	627.3
32.5°	682.6	676.8	656.1	603.0	588.1
35°	644.5	639.9	608.8	562.7	548.8
37.5°	606.5	600.7	561.5	524.6	507.3
40°	568.4	561.5	518.9	485.4	467.0
42.5°	532.7	523.5	482.0	446.2	425.5
45°	494.7	484.3	442.8	405.9	389.7
47.5°	456.6	447.4	409.3	371.3	352.8
50°	416.2	408.2	373.6	335.5	315.9
52.5°	382.8	370.1	336.7	298.6	282.5
55°	343.6	333.2	302.1	266.4	252.5
57.5°	307.9	297.5	268.7	235.2	223.7
60°	274.4	259.4	235.2	206.4	197.2
62.5°	237.5	226.0	205.2	181.0	192.6
65°	204.1	192.6	174.1	177.6	147.6
67.5°	167.2	161.4	145.3	129.1	124.5
70°	136.1	129.1	123.4	106.1	101.5
72.5°	108.4	101.5	93.4	84.2	80.7
75°	81.9	76.1	71.5	68.0	74.9
77.5°	56.5	54.2	50.7	47.3	46.1
80°	36.9	35.7	34.6	33.4	32.3
82.5°	21.9	21.9	21.9	21.9	21.9
85°	11.5	12.7	13.8	15.0	16.1
87.5°	6.9	6.9	8.1	9.2	10.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)