

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: P560108

Luminaire Tested: FSR-12-2-LD4-1STD-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560108  
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-LD4-1STD-40-UNV-93-96-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

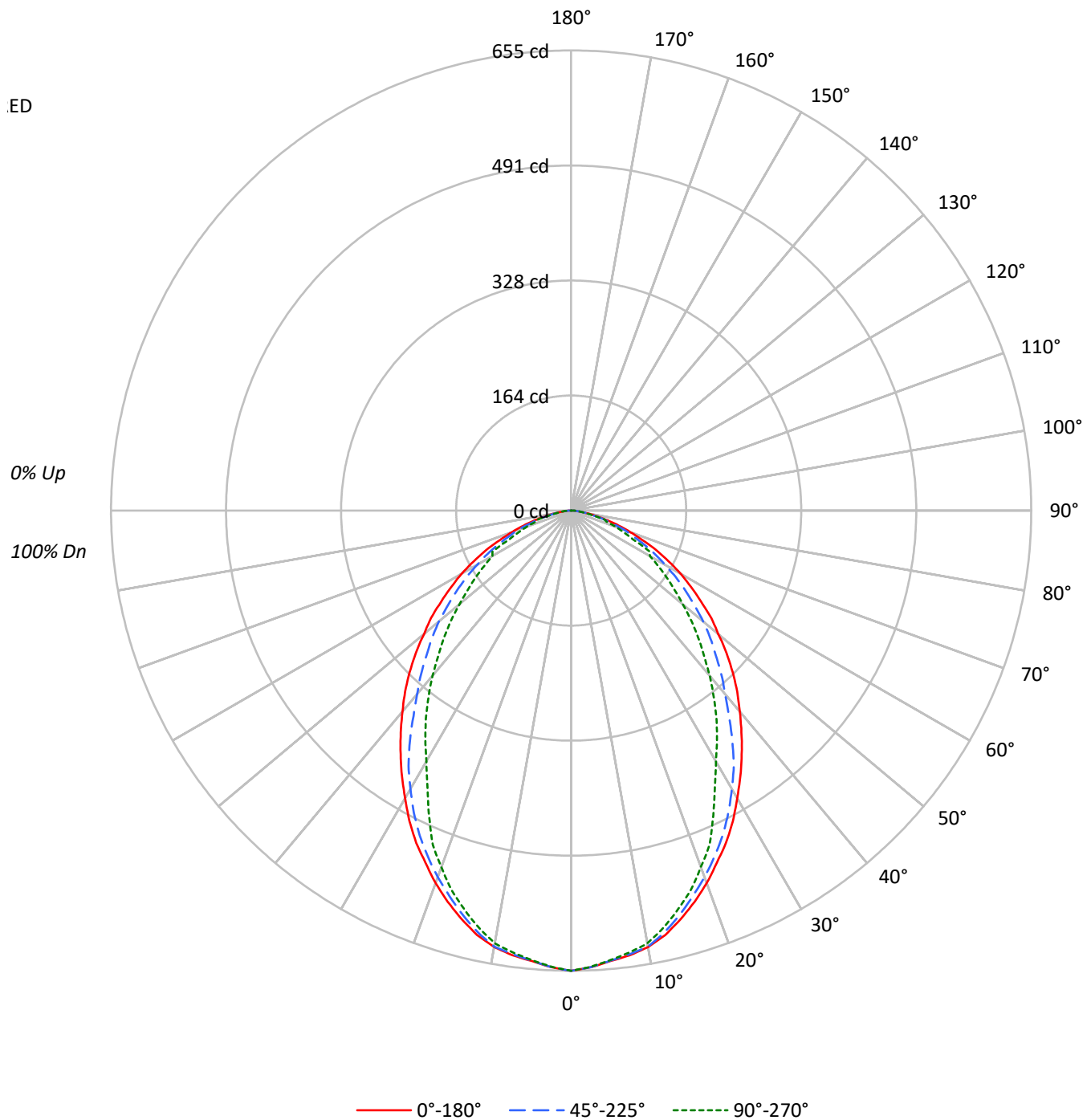
Lumens per Lamp: N/A  
Luminaire Lumens: 1286.0 lumens  
Efficiency: N/A  
Efficacy: 77.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3526	3526	3526
5°	3478	3474	3469
10°	3447	3443	3418
15°	3355	3321	3275
20°	3231	3179	3093
25°	3099	3031	2842
30°	2937	2843	2560
35°	2781	2627	2369
40°	2623	2394	2155
45°	2473	2213	1948
50°	2289	2055	1737
55°	2118	1862	1557
60°	1940	1663	1394
65°	1706	1457	1234
70°	1407	1275	1048
75°	1119	977	1023
80°	750	704	657
85°	469	562	655

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2473 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.0	4.7
10°-20°	167.4	13.0
20°-30°	231.7	18.0
30°-40°	247.0	19.2
40°-50°	225.4	17.5
50°-60°	176.6	13.7
60°-70°	115.1	8.9
70°-80°	51.0	4.0
80°-90°	10.9	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°	460.0	35.8
0°-40°	707.1	55.0
0°-60°	1109.0	86.2
0°-90°	1286.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1286.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	655	655	655	655	655	
5°	644	643	643	642	642	61
15°	602	602	596	590	588	169
25°	522	519	510	492	479	240
35°	423	420	400	370	360	265
45°	325	318	291	267	256	250
55°	226	219	198	175	166	202
65°	134	126	114	117	97	132
75°	54	50	47	45	49	58
85°	8	8	9	10	11	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	655.1	655.1	655.1	655.1	655.1
2.5°	650.5	650.5	650.5	649.8	649.8
5°	643.7	643.0	643.0	642.2	642.2
7.5°	638.4	637.7	636.9	636.1	634.6
10°	630.8	630.8	630.1	626.3	625.5
12.5°	618.7	618.0	614.9	609.6	608.1
15°	602.1	602.1	596.0	589.9	587.7
17.5°	583.9	583.1	575.6	569.5	566.5
20°	564.2	562.7	555.1	545.3	540.0
22.5°	542.2	542.2	533.1	520.3	515.0
25°	521.8	518.8	510.4	492.3	478.6
27.5°	498.3	493.8	484.7	458.9	443.0
30°	472.6	470.3	457.4	424.1	412.0
32.5°	448.3	444.5	430.9	396.1	386.2
35°	423.3	420.3	399.9	369.6	360.5
37.5°	398.3	394.6	368.8	344.6	333.2
40°	373.4	368.8	340.8	318.8	306.7
42.5°	349.9	343.8	316.6	293.1	279.4
45°	324.9	318.1	290.8	266.6	256.0
47.5°	299.9	293.8	268.8	243.9	231.7
50°	273.4	268.1	245.4	220.4	207.5
52.5°	251.4	243.1	221.1	196.1	185.5
55°	225.7	218.9	198.4	174.9	165.9
57.5°	202.2	195.4	176.5	154.5	146.9
60°	180.2	170.4	154.5	135.6	129.5
62.5°	156.0	148.4	134.8	118.9	126.5
65°	134.0	126.5	114.4	116.6	96.9
67.5°	109.8	106.0	95.4	84.8	81.8
70°	89.4	84.8	81.0	69.7	66.6
72.5°	71.2	66.6	61.3	55.3	53.0
75°	53.8	50.0	47.0	44.7	49.2
77.5°	37.1	35.6	33.3	31.0	30.3
80°	24.2	23.5	22.7	22.0	21.2
82.5°	14.4	14.4	14.4	14.4	14.4
85°	7.6	8.3	9.1	9.8	10.6
87.5°	4.5	4.5	5.3	6.1	6.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)