

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: P560044

Luminaire Tested: FSR-12-2-LD4-1STD-35-UNV-93-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560044  
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-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

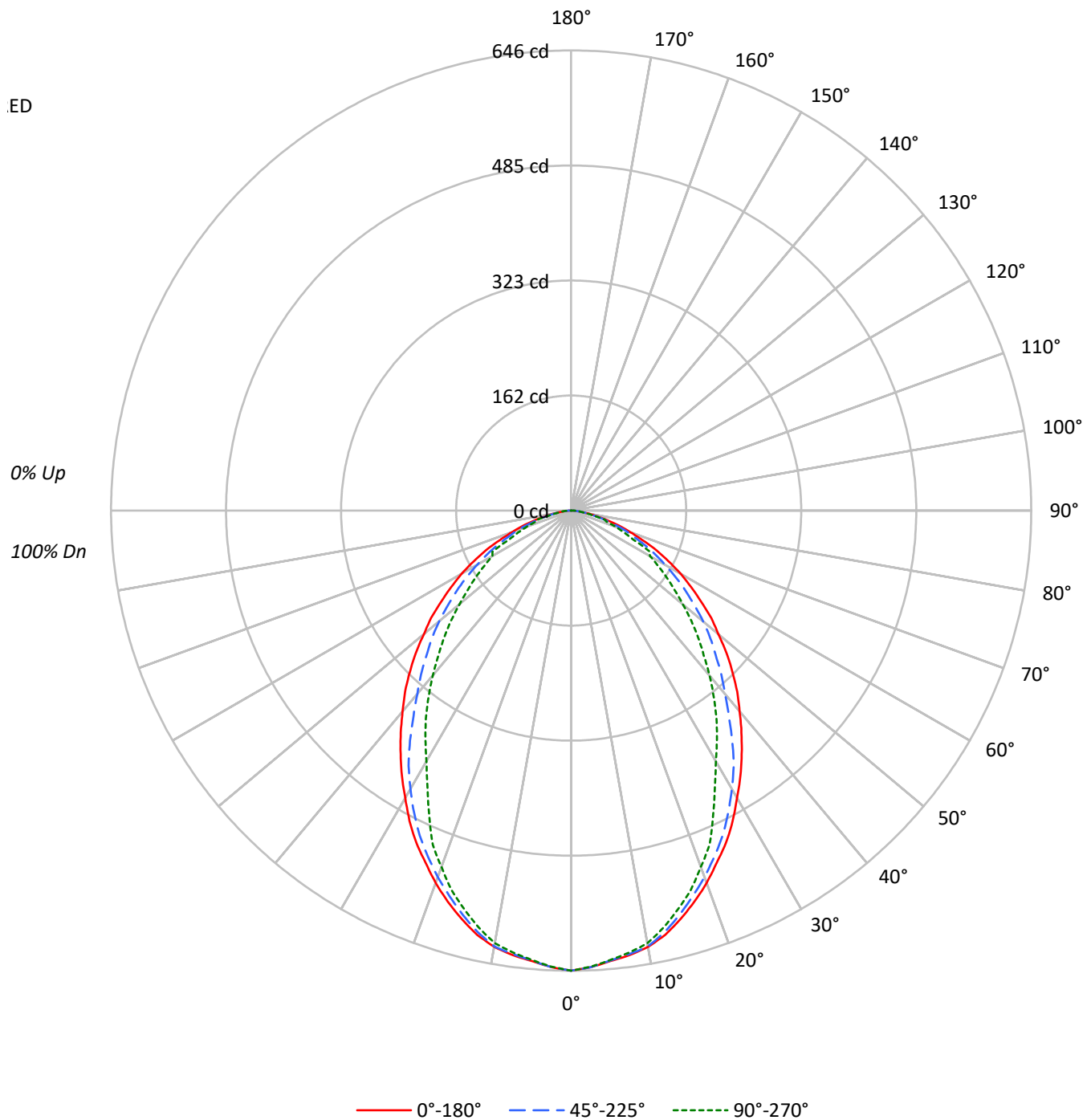
Lumens per Lamp: N/A  
Luminaire Lumens: 1268.0 lumens  
Efficiency: N/A  
Efficacy: 76.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3476	3476	3476
5°	3429	3425	3421
10°	3399	3395	3371
15°	3307	3275	3228
20°	3186	3135	3049
25°	3055	2989	2802
30°	2895	2803	2524
35°	2742	2591	2335
40°	2586	2361	2125
45°	2438	2182	1921
50°	2257	2025	1713
55°	2088	1835	1534
60°	1913	1639	1375
65°	1684	1436	1217
70°	1386	1257	1034
75°	1102	963	1009
80°	741	694	648
85°	463	556	648

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2438 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	60.1	4.7
10°-20°	165.0	13.0
20°-30°	228.4	18.0
30°-40°	243.6	19.2
40°-50°	222.2	17.5
50°-60°	174.1	13.7
60°-70°	113.5	8.9
70°-80°	50.3	4.0
80°-90°	10.8	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°	453.6	35.8
0°-40°	697.2	55.0
0°-60°	1093.5	86.2
0°-90°	1268.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1268.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	646	646	646	646	646	
5°	635	634	634	633	633	60
15°	594	594	588	582	579	167
25°	514	512	503	485	472	236
35°	417	414	394	364	355	261
45°	320	314	287	263	252	247
55°	222	216	196	172	164	200
65°	132	125	113	115	96	130
75°	53	49	46	44	48	57
85°	8	8	9	10	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	645.9	645.9	645.9	645.9	645.9
2.5°	641.4	641.4	641.4	640.7	640.7
5°	634.7	634.0	634.0	633.2	633.2
7.5°	629.5	628.7	628.0	627.2	625.7
10°	622.0	622.0	621.3	617.5	616.8
12.5°	610.1	609.3	606.3	601.1	599.6
15°	593.6	593.6	587.7	581.7	579.4
17.5°	575.7	575.0	567.5	561.5	558.5
20°	556.3	554.8	547.3	537.6	532.4
22.5°	534.6	534.6	525.7	513.0	507.8
25°	514.5	511.5	503.3	485.4	471.9
27.5°	491.3	486.9	477.9	452.5	436.8
30°	465.9	463.7	451.0	418.2	406.2
32.5°	442.1	438.3	424.9	390.5	380.8
35°	417.4	414.4	394.3	364.4	355.4
37.5°	392.8	389.0	363.6	339.8	328.6
40°	368.1	363.6	336.0	314.4	302.4
42.5°	345.0	339.0	312.1	289.0	275.5
45°	320.3	313.6	286.7	262.8	252.4
47.5°	295.7	289.7	265.1	240.4	228.5
50°	269.6	264.3	241.9	217.3	204.6
52.5°	247.9	239.7	218.0	193.4	182.9
55°	222.5	215.8	195.6	172.5	163.5
57.5°	199.4	192.7	174.0	152.3	144.9
60°	177.7	168.0	152.3	133.7	127.7
62.5°	153.8	146.4	132.9	117.2	124.7
65°	132.2	124.7	112.8	115.0	95.6
67.5°	108.3	104.5	94.1	83.6	80.6
70°	88.1	83.6	79.9	68.7	65.7
72.5°	70.2	65.7	60.5	54.5	52.3
75°	53.0	49.3	46.3	44.1	48.5
77.5°	36.6	35.1	32.9	30.6	29.9
80°	23.9	23.1	22.4	21.7	20.9
82.5°	14.2	14.2	14.2	14.2	14.2
85°	7.5	8.2	9.0	9.7	10.5
87.5°	4.5	4.5	5.2	6.0	6.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)