

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: P560102

Luminaire Tested: FSR-12-2-LD4-1STD-40-UNV-93-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560102  
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-93-87-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

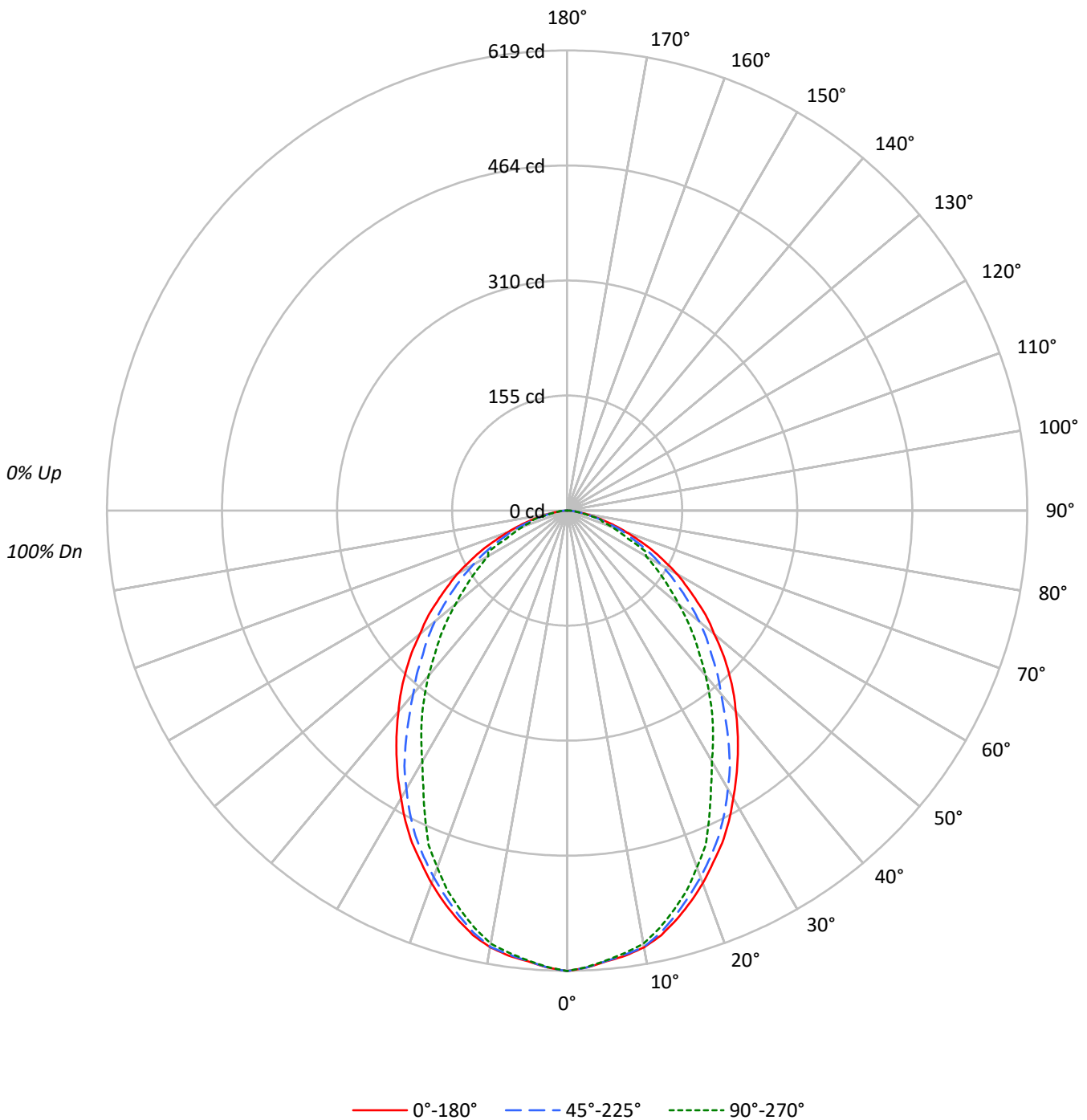
Lumens per Lamp: N/A  
Luminaire Lumens: 1216.0 lumens  
Efficiency: N/A  
Efficacy: 73.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3334	3334	3334
5°	3289	3285	3280
10°	3260	3256	3233
15°	3172	3140	3096
20°	3056	3006	2924
25°	2930	2866	2688
30°	2777	2688	2421
35°	2630	2484	2240
40°	2480	2264	2037
45°	2338	2093	1842
50°	2164	1942	1643
55°	2002	1760	1471
60°	1834	1573	1319
65°	1613	1377	1168
70°	1330	1205	991
75°	1056	923	967
80°	710	666	623
85°	445	531	618

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2338 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.7	4.7
10°-20°	158.2	13.0
20°-30°	219.1	18.0
30°-40°	233.6	19.2
40°-50°	213.1	17.5
50°-60°	167.0	13.7
60°-70°	108.8	8.9
70°-80°	48.2	4.0
80°-90°	10.3	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°	435.0	35.8
0°-40°	668.6	55.0
0°-60°	1048.6	86.2
0°-90°	1216.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1216.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	619	619	619	619	619	
5°	609	608	608	607	607	58
15°	569	569	564	558	556	160
25°	493	490	483	466	453	227
35°	400	397	378	349	341	250
45°	307	301	275	252	242	237
55°	213	207	188	165	157	191
65°	127	120	108	110	92	125
75°	51	47	44	42	46	54
85°	7	8	9	9	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	619.4	619.4	619.4	619.4	619.4
2.5°	615.1	615.1	615.1	614.4	614.4
5°	608.7	608.0	608.0	607.2	607.2
7.5°	603.7	602.9	602.2	601.5	600.1
10°	596.5	596.5	595.8	592.2	591.5
12.5°	585.0	584.3	581.5	576.4	575.0
15°	569.3	569.3	563.6	557.8	555.7
17.5°	552.1	551.4	544.2	538.5	535.6
20°	533.5	532.1	524.9	515.6	510.6
22.5°	512.7	512.7	504.1	492.0	486.9
25°	493.4	490.5	482.6	465.5	452.6
27.5°	471.2	466.9	458.3	433.9	418.9
30°	446.8	444.7	432.5	401.0	389.6
32.5°	423.9	420.3	407.5	374.5	365.2
35°	400.3	397.4	378.1	349.4	340.9
37.5°	376.7	373.1	348.7	325.8	315.1
40°	353.0	348.7	322.2	301.5	290.0
42.5°	330.8	325.1	299.3	277.1	264.2
45°	307.2	300.8	275.0	252.1	242.0
47.5°	283.6	277.8	254.2	230.6	219.1
50°	258.5	253.5	232.0	208.4	196.2
52.5°	237.7	229.9	209.1	185.5	175.4
55°	213.4	206.9	187.6	165.4	156.8
57.5°	191.2	184.8	166.8	146.1	138.9
60°	170.4	161.1	146.1	128.2	122.5
62.5°	147.5	140.4	127.5	112.4	119.6
65°	126.7	119.6	108.1	110.3	91.7
67.5°	103.8	100.3	90.2	80.2	77.3
70°	84.5	80.2	76.6	65.9	63.0
72.5°	67.3	63.0	58.0	52.3	50.1
75°	50.8	47.3	44.4	42.2	46.5
77.5°	35.1	33.7	31.5	29.4	28.6
80°	22.9	22.2	21.5	20.8	20.1
82.5°	13.6	13.6	13.6	13.6	13.6
85°	7.2	7.9	8.6	9.3	10.0
87.5°	4.3	4.3	5.0	5.7	6.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)