

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: P559645

Luminaire Tested: FSR-12-2-LD4-1HI-35-UNV-82-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559645  
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-LD4-1HI-35-UNV-82-96-EDD  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

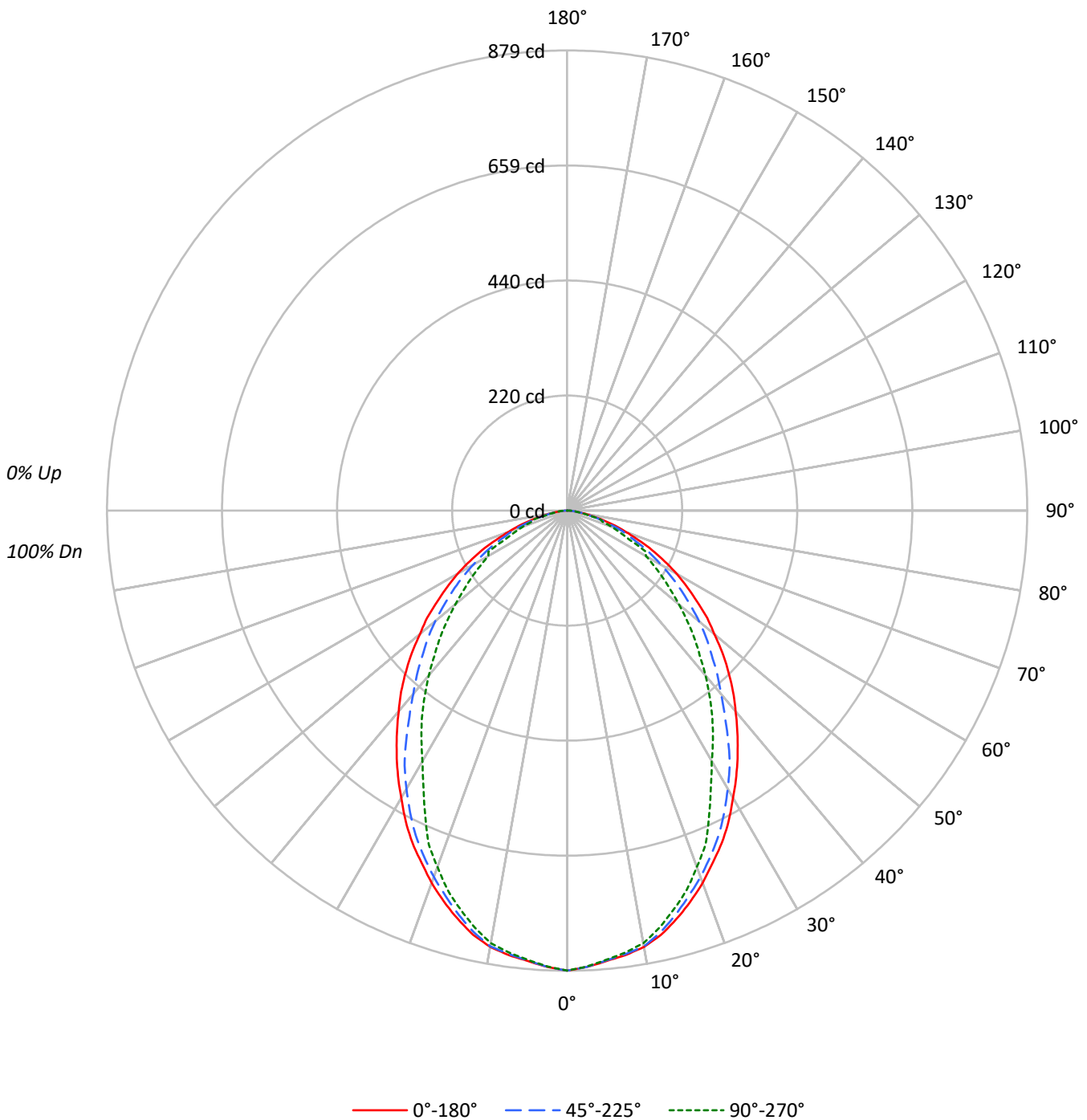
Lumens per Lamp: N/A  
Luminaire Lumens: 1725.0 lumens  
Efficiency: N/A  
Efficacy: 79.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4729	4729	4729
5°	4665	4659	4654
10°	4624	4619	4586
15°	4500	4455	4392
20°	4334	4265	4148
25°	4156	4066	3812
30°	3939	3813	3434
35°	3731	3524	3177
40°	3518	3211	2890
45°	3317	2969	2614
50°	3070	2756	2330
55°	2840	2497	2088
60°	2603	2230	1870
65°	2290	1954	1656
70°	1887	1710	1407
75°	1499	1310	1372
80°	1007	945	880
85°	630	753	877

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3317 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.8	4.7
10°-20°	224.5	13.0
20°-30°	310.8	18.0
30°-40°	331.4	19.2
40°-50°	302.3	17.5
50°-60°	236.8	13.7
60°-70°	154.4	8.9
70°-80°	68.4	4.0
80°-90°	14.7	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°	617.0	35.8
0°-40°	948.4	55.0
0°-60°	1487.6	86.2
0°-90°	1725.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1725.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	879	879	879	879	879	
5°	864	862	862	861	861	82
15°	808	808	800	791	788	227
25°	700	696	685	660	642	321
35°	568	564	536	496	484	355
45°	436	427	390	358	343	336
55°	303	294	266	235	222	272
65°	180	170	153	156	130	177
75°	72	67	63	60	66	77
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	878.7	878.7	878.7	878.7	878.7
2.5°	872.6	872.6	872.6	871.6	871.6
5°	863.5	862.4	862.4	861.4	861.4
7.5°	856.3	855.3	854.3	853.3	851.3
10°	846.2	846.2	845.2	840.1	839.1
12.5°	829.9	828.9	824.9	817.7	815.7
15°	807.6	807.6	799.5	791.3	788.3
17.5°	783.2	782.2	772.0	763.9	759.8
20°	756.8	754.8	744.6	731.4	724.3
22.5°	727.3	727.3	715.1	697.9	690.8
25°	699.9	695.8	684.7	660.3	642.0
27.5°	668.4	662.3	650.1	615.6	594.3
30°	633.9	630.8	613.6	568.9	552.6
32.5°	601.4	596.3	578.0	531.3	518.1
35°	567.8	563.8	536.4	495.7	483.5
37.5°	534.3	529.2	494.7	462.2	447.0
40°	500.8	494.7	457.1	427.7	411.4
42.5°	469.3	461.2	424.6	393.1	374.8
45°	435.8	426.6	390.1	357.6	343.4
47.5°	402.3	394.1	360.6	327.1	310.8
50°	366.7	359.6	329.1	295.6	278.3
52.5°	337.3	326.1	296.6	263.1	248.9
55°	302.7	293.6	266.1	234.7	222.5
57.5°	271.2	262.1	236.7	207.2	197.1
60°	241.8	228.6	207.2	181.8	173.7
62.5°	209.3	199.1	180.8	159.5	169.6
65°	179.8	169.6	153.4	156.4	130.0
67.5°	147.3	142.2	128.0	113.8	109.7
70°	119.9	113.8	108.7	93.5	89.4
72.5°	95.5	89.4	82.3	74.2	71.1
75°	72.1	67.0	63.0	59.9	66.0
77.5°	49.8	47.7	44.7	41.6	40.6
80°	32.5	31.5	30.5	29.5	28.4
82.5°	19.3	19.3	19.3	19.3	19.3
85°	10.2	11.2	12.2	13.2	14.2
87.5°	6.1	6.1	7.1	8.1	9.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)