

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: P560096

Luminaire Tested: FSR-12-2-LD4-1STD-40-UNV-93-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560096  
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-93-84-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

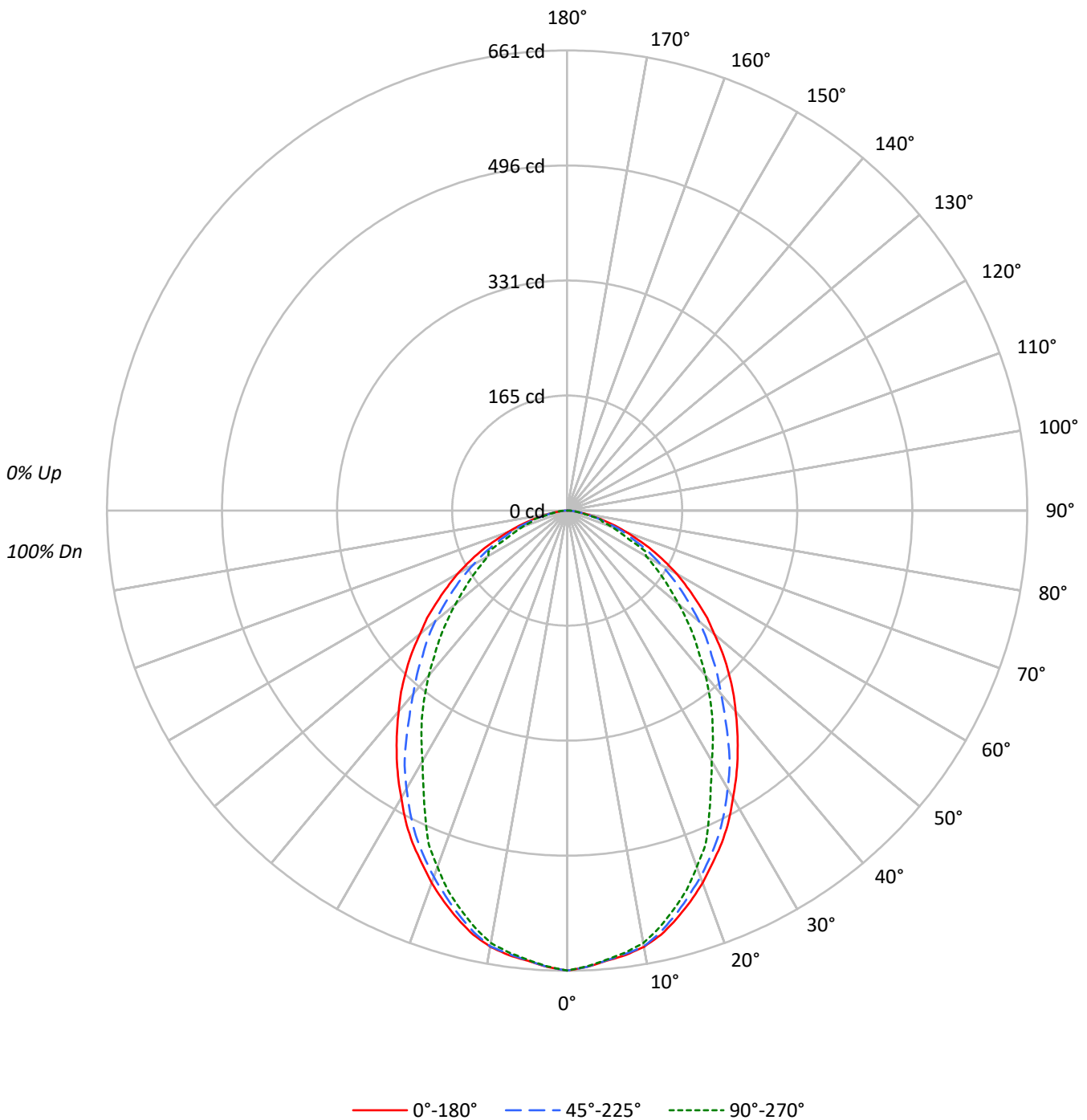
Lumens per Lamp: N/A  
Luminaire Lumens: 1297.0 lumens  
Efficiency: N/A  
Efficacy: 78.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																												
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°	3556	3556	3556
5°	3507	3504	3499
10°	3477	3473	3448
15°	3383	3349	3302
20°	3259	3207	3119
25°	3125	3057	2866
30°	2962	2867	2582
35°	2805	2650	2389
40°	2645	2415	2173
45°	2494	2232	1965
50°	2308	2072	1752
55°	2136	1878	1570
60°	1957	1677	1406
65°	1722	1468	1245
70°	1418	1286	1057
75°	1127	986	1031
80°	756	710	663
85°	469	568	661

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2494 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.5	4.7
10°-20°	168.8	13.0
20°-30°	233.7	18.0
30°-40°	249.2	19.2
40°-50°	227.3	17.5
50°-60°	178.1	13.7
60°-70°	116.1	8.9
70°-80°	51.4	4.0
80°-90°	11.0	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°	464.0	35.8
0°-40°	713.1	55.0
0°-60°	1118.5	86.2
0°-90°	1297.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1297.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	661	661	661	661	661	
5°	649	648	648	648	648	62
15°	607	607	601	595	593	171
25°	526	523	515	496	483	242
35°	427	424	403	373	364	267
45°	328	321	293	269	258	252
55°	228	221	200	176	167	204
65°	135	128	115	118	98	133
75°	54	50	47	45	50	58
85°	8	8	9	10	11	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	660.7	660.7	660.7	660.7	660.7
2.5°	656.1	656.1	656.1	655.3	655.3
5°	649.2	648.5	648.5	647.7	647.7
7.5°	643.9	643.1	642.3	641.6	640.1
10°	636.2	636.2	635.5	631.7	630.9
12.5°	624.0	623.2	620.2	614.8	613.3
15°	607.2	607.2	601.1	595.0	592.7
17.5°	588.9	588.1	580.5	574.4	571.3
20°	569.0	567.5	559.9	549.9	544.6
22.5°	546.9	546.9	537.7	524.7	519.4
25°	526.2	523.2	514.8	496.5	482.7
27.5°	502.6	498.0	488.8	462.9	446.8
30°	476.6	474.3	461.3	427.7	415.5
32.5°	452.2	448.3	434.6	399.5	389.5
35°	427.0	423.9	403.3	372.7	363.6
37.5°	401.8	397.9	372.0	347.5	336.1
40°	376.5	372.0	343.7	321.6	309.3
42.5°	352.9	346.8	319.3	295.6	281.8
45°	327.7	320.8	293.3	268.9	258.2
47.5°	302.5	296.3	271.1	245.9	233.7
50°	275.7	270.4	247.5	222.3	209.3
52.5°	253.6	245.2	223.0	197.8	187.1
55°	227.6	220.7	200.1	176.4	167.3
57.5°	203.9	197.1	178.0	155.8	148.2
60°	181.8	171.9	155.8	136.7	130.6
62.5°	157.3	149.7	136.0	119.9	127.6
65°	135.2	127.6	115.3	117.6	97.8
67.5°	110.7	106.9	96.2	85.5	82.5
70°	90.1	85.5	81.7	70.3	67.2
72.5°	71.8	67.2	61.9	55.8	53.5
75°	54.2	50.4	47.4	45.1	49.6
77.5°	37.4	35.9	33.6	31.3	30.6
80°	24.4	23.7	22.9	22.1	21.4
82.5°	14.5	14.5	14.5	14.5	14.5
85°	7.6	8.4	9.2	9.9	10.7
87.5°	4.6	4.6	5.3	6.1	6.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)