

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: P560105

Luminaire Tested: FSR-12-2-LD4-1STD-40-UNV-93-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560105  
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-93-88-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

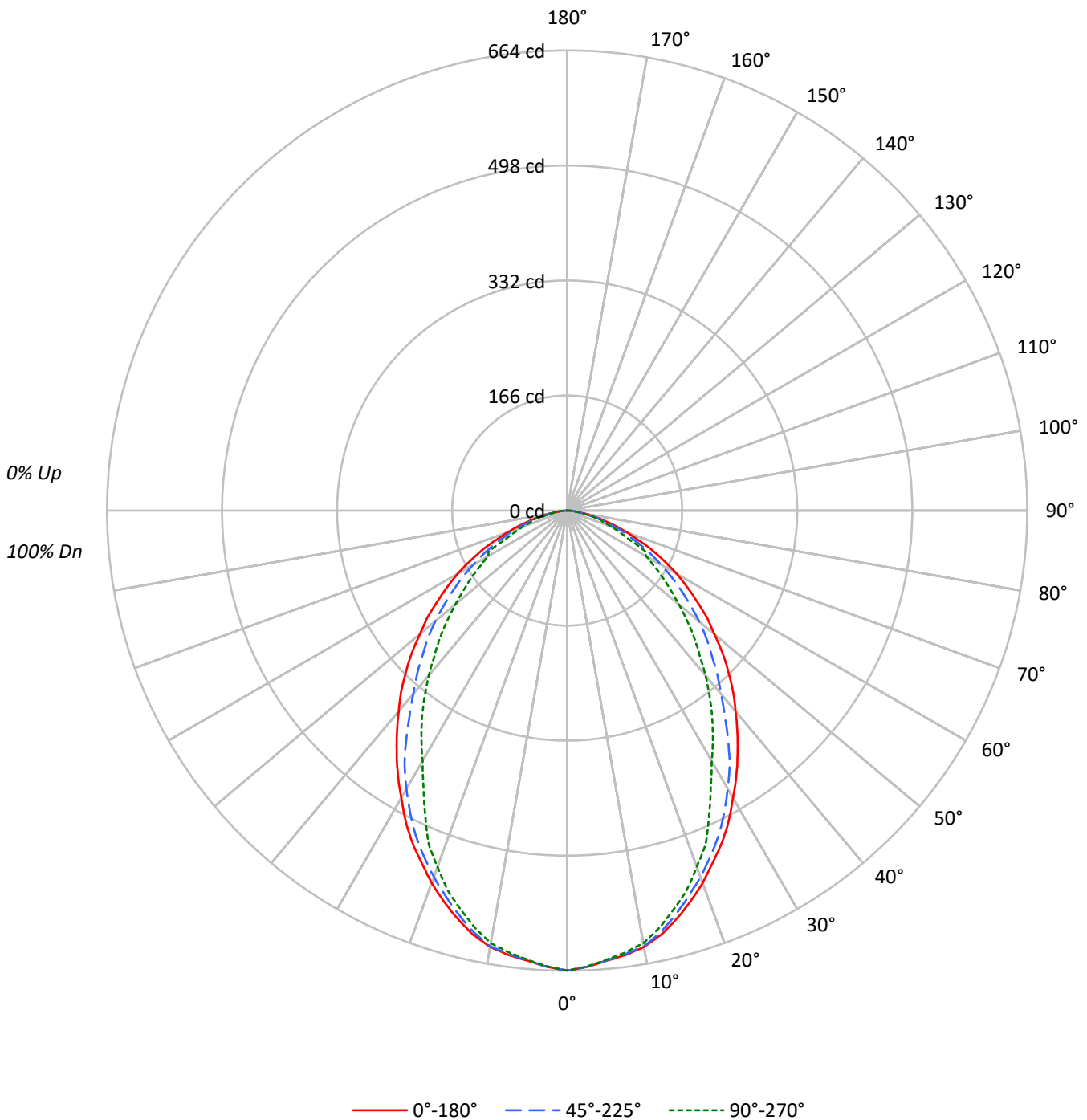
Lumens per Lamp: N/A  
Luminaire Lumens: 1303.0 lumens  
Efficiency: N/A  
Efficacy: 78.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3572	3572	3572
5°	3524	3520	3515
10°	3493	3489	3464
15°	3399	3365	3317
20°	3274	3221	3133
25°	3140	3071	2879
30°	2976	2880	2594
35°	2818	2662	2399
40°	2658	2426	2184
45°	2506	2243	1974
50°	2319	2081	1760
55°	2146	1886	1576
60°	1965	1685	1412
65°	1729	1476	1251
70°	1424	1292	1062
75°	1133	990	1038
80°	762	713	666
85°	475	568	661

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2506 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.8	4.7
10°-20°	169.6	13.0
20°-30°	234.7	18.0
30°-40°	250.3	19.2
40°-50°	228.4	17.5
50°-60°	178.9	13.7
60°-70°	116.6	8.9
70°-80°	51.7	4.0
80°-90°	11.1	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°	466.1	35.8
0°-40°	716.4	55.0
0°-60°	1123.7	86.2
0°-90°	1303.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1303.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	664	664	664	664	664	
5°	652	652	652	651	651	62
15°	610	610	604	598	595	171
25°	529	526	517	499	485	243
35°	429	426	405	374	365	268
45°	329	322	295	270	259	254
55°	229	222	201	177	168	205
65°	136	128	116	118	98	134
75°	54	51	48	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°	663.7	663.7	663.7	663.7	663.7
2.5°	659.1	659.1	659.1	658.4	658.4
5°	652.2	651.5	651.5	650.7	650.7
7.5°	646.8	646.1	645.3	644.5	643.0
10°	639.2	639.2	638.4	634.6	633.8
12.5°	626.9	626.1	623.1	617.7	616.2
15°	610.0	610.0	603.9	597.7	595.4
17.5°	591.6	590.8	583.2	577.0	574.0
20°	571.7	570.1	562.4	552.5	547.1
22.5°	549.4	549.4	540.2	527.1	521.8
25°	528.7	525.6	517.2	498.8	484.9
27.5°	504.9	500.3	491.1	465.0	448.9
30°	478.8	476.5	463.5	429.7	417.4
32.5°	454.3	450.4	436.6	401.3	391.3
35°	428.9	425.9	405.1	374.5	365.2
37.5°	403.6	399.8	373.7	349.1	337.6
40°	378.3	373.7	345.3	323.0	310.8
42.5°	354.5	348.4	320.7	297.0	283.1
45°	329.2	322.3	294.7	270.1	259.4
47.5°	303.9	297.7	272.4	247.1	234.8
50°	277.0	271.6	248.6	223.3	210.2
52.5°	254.7	246.3	224.1	198.7	188.0
55°	228.7	221.8	201.0	177.3	168.0
57.5°	204.9	198.0	178.8	156.5	148.9
60°	182.6	172.6	156.5	137.4	131.2
62.5°	158.1	150.4	136.6	120.5	128.1
65°	135.8	128.1	115.9	118.2	98.2
67.5°	111.3	107.4	96.7	85.9	82.9
70°	90.5	85.9	82.1	70.6	67.5
72.5°	72.1	67.5	62.2	56.0	53.7
75°	54.5	50.6	47.6	45.3	49.9
77.5°	37.6	36.1	33.8	31.5	30.7
80°	24.6	23.8	23.0	22.3	21.5
82.5°	14.6	14.6	14.6	14.6	14.6
85°	7.7	8.4	9.2	10.0	10.7
87.5°	4.6	4.6	5.4	6.1	6.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)