

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: P560077

Luminaire Tested: FSR-12-2-LD4-1STD-40-UNV-81-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560077  
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-81-96-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

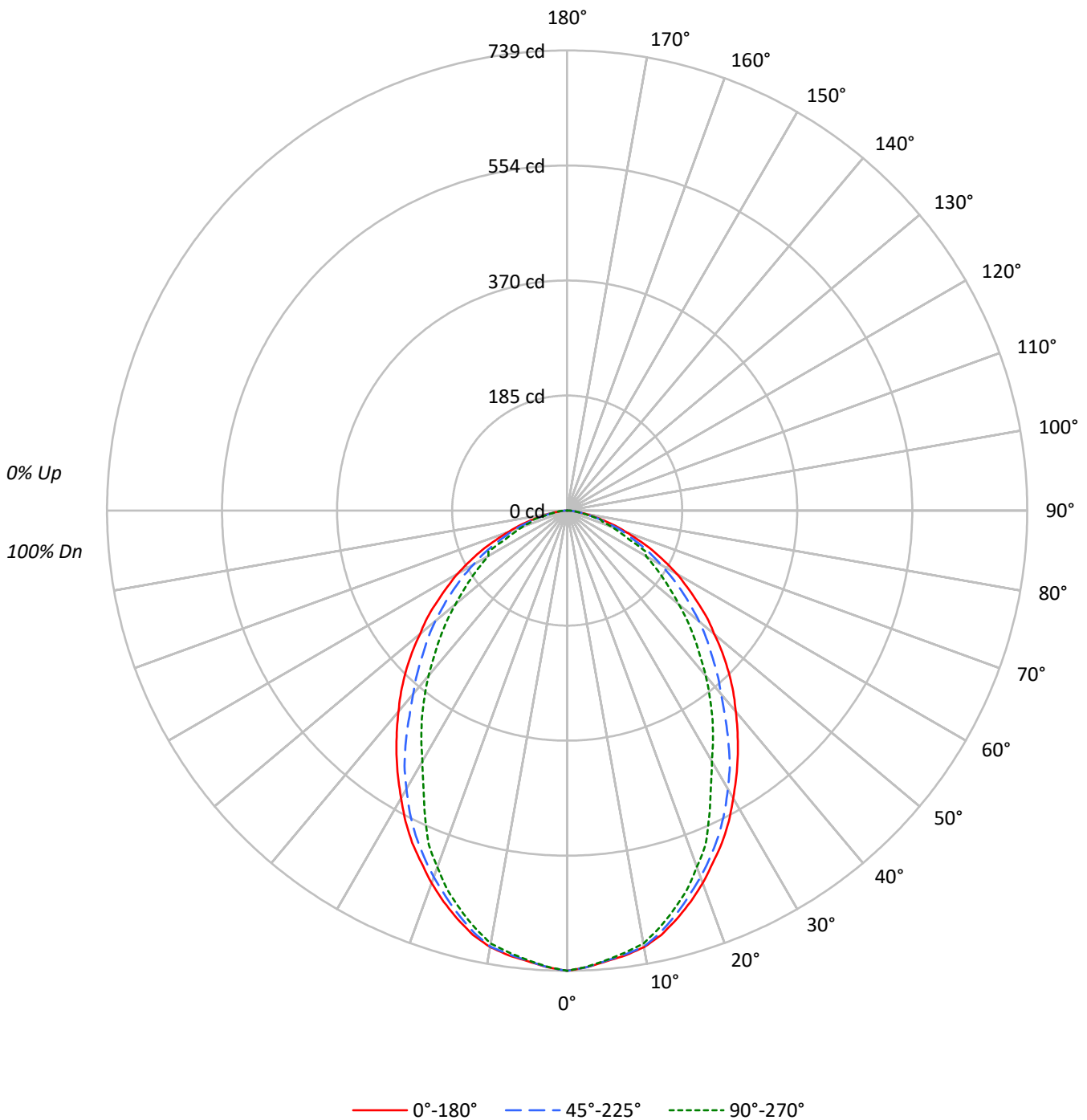
Lumens per Lamp: N/A  
Luminaire Lumens: 1451.0 lumens  
Efficiency: N/A  
Efficacy: 87.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3978	3978	3978
5°	3924	3919	3915
10°	3890	3885	3857
15°	3785	3747	3695
20°	3646	3587	3489
25°	3496	3420	3207
30°	3314	3207	2889
35°	3139	2964	2672
40°	2960	2701	2432
45°	2790	2497	2198
50°	2583	2318	1960
55°	2389	2101	1756
60°	2189	1876	1573
65°	1926	1643	1393
70°	1586	1438	1183
75°	1262	1102	1154
80°	846	793	741
85°	525	636	741

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2790 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.8	4.7
10°-20°	188.8	13.0
20°-30°	261.4	18.0
30°-40°	278.7	19.2
40°-50°	254.3	17.5
50°-60°	199.2	13.7
60°-70°	129.8	8.9
70°-80°	57.5	4.0
80°-90°	12.3	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°	519.0	35.8
0°-40°	797.8	55.0
0°-60°	1251.3	86.2
0°-90°	1451.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1451.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	739	739	739	739	739	
5°	726	725	725	725	725	69
15°	679	679	672	666	663	191
25°	589	585	576	555	540	270
35°	478	474	451	417	407	299
45°	367	359	328	301	289	282
55°	255	247	224	197	187	228
65°	151	143	129	132	109	149
75°	61	56	53	50	56	65
85°	8	9	10	11	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	739.1	739.1	739.1	739.1	739.1
2.5°	734.0	734.0	734.0	733.1	733.1
5°	726.3	725.4	725.4	724.6	724.6
7.5°	720.3	719.5	718.6	717.8	716.0
10°	711.8	711.8	710.9	706.7	705.8
12.5°	698.1	697.3	693.8	687.9	686.1
15°	679.3	679.3	672.5	665.6	663.1
17.5°	658.8	657.9	649.4	642.6	639.1
20°	636.6	634.9	626.3	615.2	609.2
22.5°	611.8	611.8	601.5	587.0	581.0
25°	588.7	585.3	575.9	555.4	540.0
27.5°	562.2	557.1	546.9	517.8	499.9
30°	533.2	530.6	516.1	478.5	464.8
32.5°	505.8	501.6	486.2	446.9	435.8
35°	477.7	474.2	451.2	417.0	406.7
37.5°	449.5	445.2	416.1	388.8	376.0
40°	421.3	416.1	384.5	359.7	346.1
42.5°	394.8	387.9	357.2	330.7	315.3
45°	366.6	358.9	328.1	300.8	288.8
47.5°	338.4	331.5	303.3	275.1	261.5
50°	308.5	302.5	276.8	248.7	234.1
52.5°	283.7	274.3	249.5	221.3	209.3
55°	254.6	246.9	223.9	197.4	187.1
57.5°	228.1	220.5	199.1	174.3	165.8
60°	203.4	192.3	174.3	153.0	146.1
62.5°	176.0	167.5	152.1	134.2	142.7
65°	151.2	142.7	129.0	131.6	109.4
67.5°	123.9	119.6	107.7	95.7	92.3
70°	100.8	95.7	91.4	78.6	75.2
72.5°	80.3	75.2	69.2	62.4	59.8
75°	60.7	56.4	53.0	50.4	55.5
77.5°	41.9	40.2	37.6	35.0	34.2
80°	27.3	26.5	25.6	24.8	23.9
82.5°	16.2	16.2	16.2	16.2	16.2
85°	8.5	9.4	10.3	11.1	12.0
87.5°	5.1	5.1	6.0	6.8	7.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)