

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: P559713

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

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559713  
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-40-UNV-93-84-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

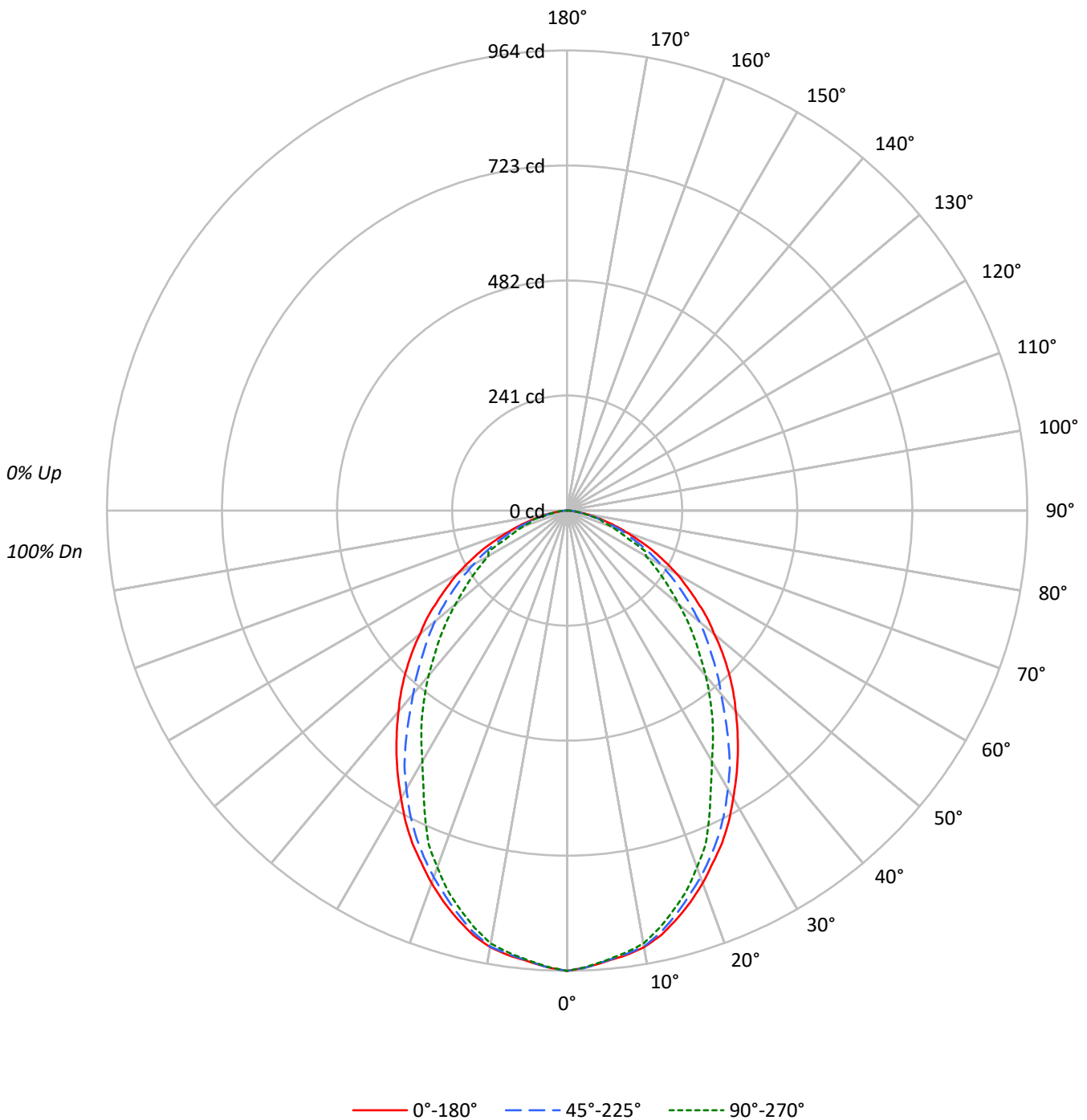
Lumens per Lamp: N/A  
Luminaire Lumens: 1893.0 lumens  
Efficiency: N/A  
Efficacy: 87.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5190	5190	5190
5°	5119	5113	5107
10°	5075	5069	5032
15°	4938	4888	4820
20°	4757	4680	4552
25°	4561	4461	4184
30°	4323	4184	3769
35°	4095	3867	3486
40°	3861	3524	3172
45°	3640	3258	2868
50°	3369	3024	2557
55°	3117	2741	2290
60°	2856	2448	2052
65°	2513	2143	1817
70°	2069	1877	1544
75°	1645	1437	1508
80°	1106	1035	967
85°	685	827	963

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3640 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.8	4.7
10°-20°	246.3	13.0
20°-30°	341.0	18.0
30°-40°	363.7	19.2
40°-50°	331.8	17.5
50°-60°	259.9	13.7
60°-70°	169.4	8.9
70°-80°	75.0	4.0
80°-90°	16.1	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°	677.1	35.8
0°-40°	1040.8	55.0
0°-60°	1632.4	86.2
0°-90°	1893.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1893.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	964	964	964	964	964	
5°	948	946	946	945	945	90
15°	886	886	877	868	865	249
25°	768	764	751	725	704	353
35°	623	619	589	544	531	390
45°	478	468	428	392	377	368
55°	332	322	292	258	244	298
65°	197	186	168	172	143	194
75°	79	74	69	66	72	85
85°	11	12	13	14	16	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	964.3	964.3	964.3	964.3	964.3
2.5°	957.6	957.6	957.6	956.5	956.5
5°	947.5	946.4	946.4	945.3	945.3
7.5°	939.7	938.6	937.5	936.4	934.2
10°	928.6	928.6	927.5	921.9	920.8
12.5°	910.8	909.6	905.2	897.4	895.2
15°	886.2	886.2	877.3	868.4	865.1
17.5°	859.5	858.4	847.2	838.3	833.8
20°	830.5	828.3	817.1	802.6	794.8
22.5°	798.2	798.2	784.8	765.8	758.0
25°	768.1	763.6	751.3	724.6	704.5
27.5°	733.5	726.8	713.4	675.5	652.1
30°	695.6	692.3	673.3	624.3	606.4
32.5°	659.9	654.4	634.3	583.0	568.5
35°	623.2	618.7	588.6	544.0	530.6
37.5°	586.4	580.8	542.9	507.2	490.5
40°	549.6	542.9	501.6	469.3	451.5
42.5°	515.0	506.1	466.0	431.4	411.3
45°	478.2	468.2	428.1	392.4	376.8
47.5°	441.4	432.5	395.7	359.0	341.1
50°	402.4	394.6	361.2	324.4	305.4
52.5°	370.1	357.8	325.5	288.7	273.1
55°	332.2	322.2	292.1	257.5	244.1
57.5°	297.6	287.6	259.7	227.4	216.3
60°	265.3	250.8	227.4	199.5	190.6
62.5°	229.6	218.5	198.4	175.0	186.2
65°	197.3	186.2	168.3	171.7	142.7
67.5°	161.6	156.1	140.5	124.9	120.4
70°	131.5	124.9	119.3	102.6	98.1
72.5°	104.8	98.1	90.3	81.4	78.0
75°	79.1	73.6	69.1	65.8	72.5
77.5°	54.6	52.4	49.0	45.7	44.6
80°	35.7	34.6	33.4	32.3	31.2
82.5°	21.2	21.2	21.2	21.2	21.2
85°	11.1	12.3	13.4	14.5	15.6
87.5°	6.7	6.7	7.8	8.9	10.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)