

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: P559724

Luminaire Tested: FSR-12-2-LD4-1HI-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559724  
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-93-96-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

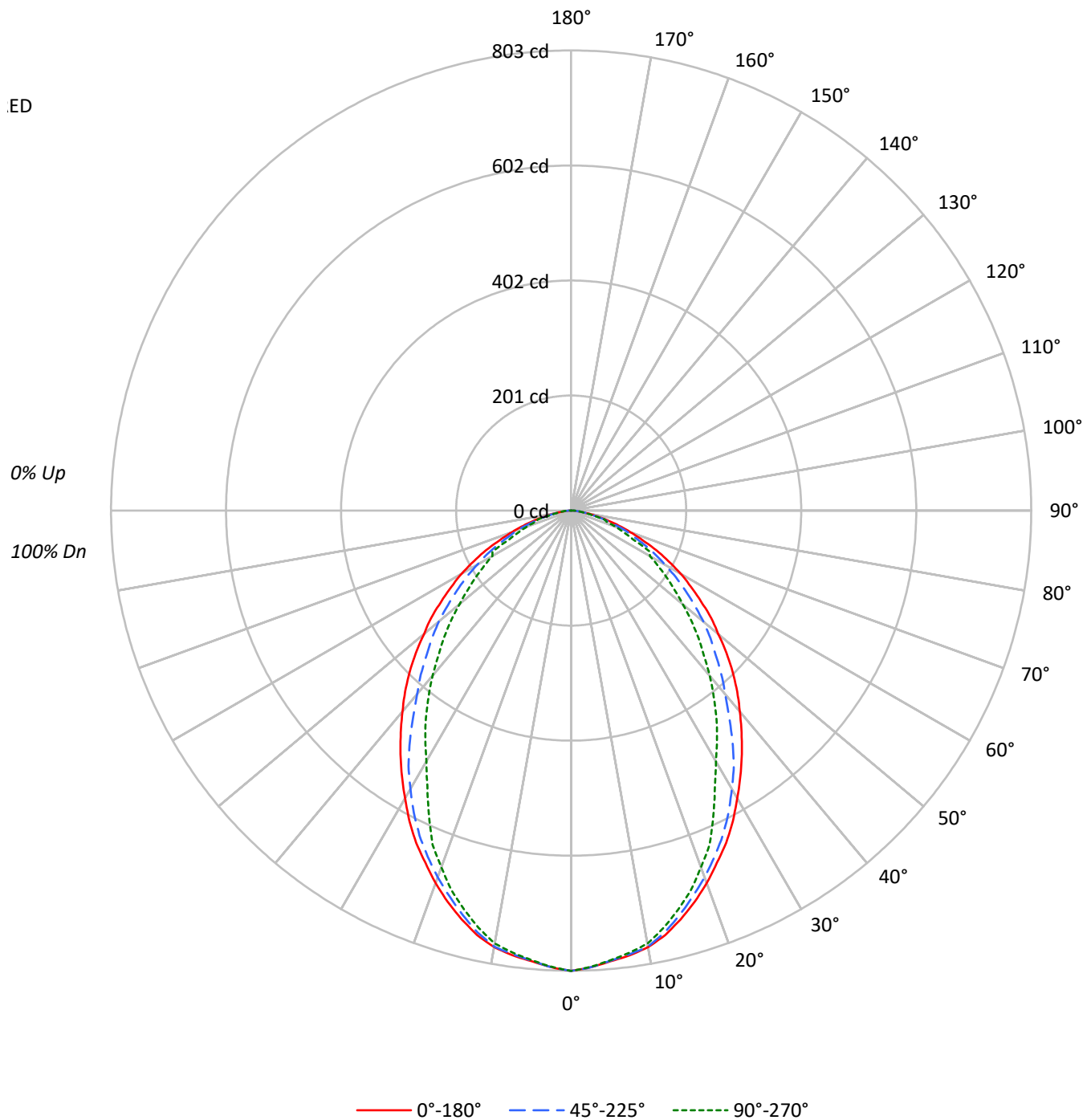
Lumens per Lamp: N/A  
Luminaire Lumens: 1577.0 lumens  
Efficiency: N/A  
Efficacy: 73.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4323	4323	4323
5°	4265	4259	4254
10°	4228	4223	4192
15°	4114	4072	4016
20°	3963	3899	3792
25°	3800	3717	3485
30°	3601	3486	3140
35°	3411	3221	2904
40°	3216	2936	2642
45°	3032	2714	2389
50°	2807	2519	2131
55°	2596	2283	1909
60°	2379	2039	1709
65°	2094	1785	1514
70°	1725	1564	1286
75°	1370	1198	1256
80°	921	865	806
85°	574	685	803

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3032 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.8	4.7
10°-20°	205.2	13.0
20°-30°	284.1	18.0
30°-40°	302.9	19.2
40°-50°	276.4	17.5
50°-60°	216.5	13.7
60°-70°	141.1	8.9
70°-80°	62.5	4.0
80°-90°	13.4	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°	564.1	35.8
0°-40°	867.0	55.0
0°-60°	1359.9	86.2
0°-90°	1577.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1577.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	803	803	803	803	803	
5°	789	788	788	788	788	75
15°	738	738	731	723	721	208
25°	640	636	626	604	587	294
35°	519	515	490	453	442	325
45°	398	390	357	327	314	307
55°	277	268	243	214	203	248
65°	164	155	140	143	119	162
75°	66	61	58	55	60	71
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	803.3	803.3	803.3	803.3	803.3
2.5°	797.7	797.7	797.7	796.8	796.8
5°	789.4	788.4	788.4	787.5	787.5
7.5°	782.9	781.9	781.0	780.1	778.2
10°	773.6	773.6	772.7	768.0	767.1
12.5°	758.7	757.8	754.1	747.6	745.7
15°	738.3	738.3	730.9	723.4	720.7
17.5°	716.0	715.1	705.8	698.4	694.6
20°	691.9	690.0	680.7	668.6	662.1
22.5°	664.9	664.9	653.8	638.0	631.5
25°	639.9	636.1	625.9	603.6	586.9
27.5°	611.1	605.5	594.4	562.8	543.3
30°	579.5	576.7	560.9	520.1	505.2
32.5°	549.8	545.1	528.4	485.7	473.6
35°	519.1	515.4	490.3	453.2	442.0
37.5°	488.5	483.8	452.3	422.5	408.6
40°	457.8	452.3	417.9	391.0	376.1
42.5°	429.0	421.6	388.2	359.4	342.7
45°	398.4	390.0	356.6	326.9	313.9
47.5°	367.8	360.3	329.7	299.0	284.2
50°	335.3	328.8	300.9	270.2	254.5
52.5°	308.3	298.1	271.2	240.5	227.5
55°	276.7	268.4	243.3	214.5	203.4
57.5°	248.0	239.6	216.4	189.4	180.2
60°	221.0	209.0	189.4	166.2	158.8
62.5°	191.3	182.0	165.3	145.8	155.1
65°	164.4	155.1	140.2	143.0	118.9
67.5°	134.7	130.0	117.0	104.0	100.3
70°	109.6	104.0	99.4	85.4	81.7
72.5°	87.3	81.7	75.2	67.8	65.0
75°	65.9	61.3	57.6	54.8	60.4
77.5°	45.5	43.6	40.9	38.1	37.1
80°	29.7	28.8	27.9	26.9	26.0
82.5°	17.6	17.6	17.6	17.6	17.6
85°	9.3	10.2	11.1	12.1	13.0
87.5°	5.6	5.6	6.5	7.4	8.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)