

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: P560438

Luminaire Tested: FSR-12-2-LD4-2LO-40-UNV-80-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560438  
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-LD4-2LO-40-UNV-80-87-EDD-90  
Description: 1X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

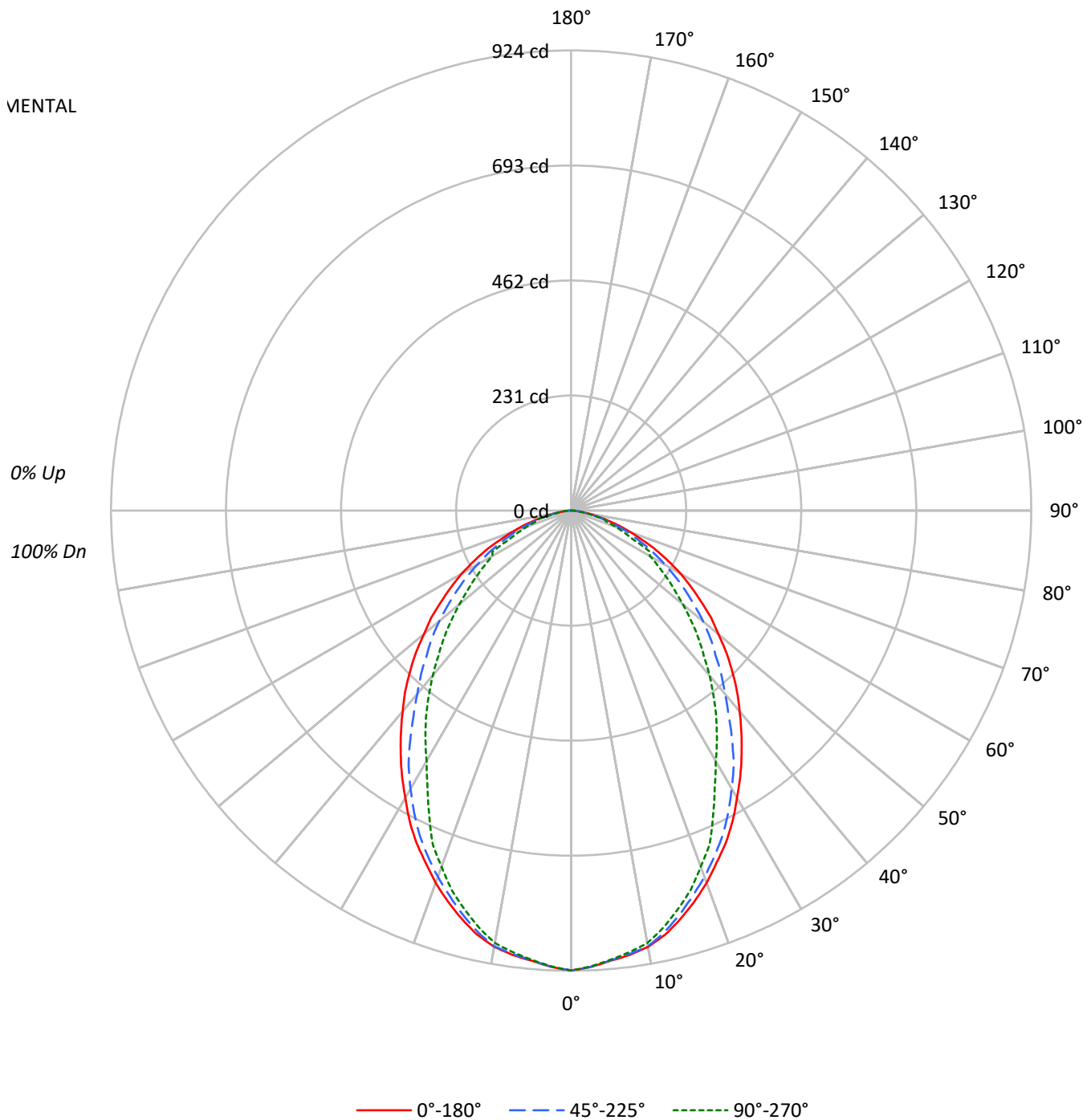
Lumens per Lamp: N/A  
Luminaire Lumens: 1813.0 lumens  
Efficiency: N/A  
Efficacy: 77.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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				
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°	4970	4970	4970
5°	4903	4897	4891
10°	4861	4855	4820
15°	4729	4681	4616
20°	4556	4482	4360
25°	4368	4273	4007
30°	4140	4008	3609
35°	3921	3704	3339
40°	3698	3375	3038
45°	3486	3121	2747
50°	3227	2896	2449
55°	2986	2624	2194
60°	2735	2344	1965
65°	2407	2053	1741
70°	1983	1797	1479
75°	1576	1377	1443
80°	1060	992	927
85°	661	790	920

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3486 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.0	4.7
10°-20°	235.9	13.0
20°-30°	326.6	18.0
30°-40°	348.3	19.2
40°-50°	317.7	17.5
50°-60°	248.9	13.7
60°-70°	162.2	8.9
70°-80°	71.9	4.0
80°-90°	15.4	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°	648.5	35.8
0°-40°	996.8	55.0
0°-60°	1563.5	86.2
0°-90°	1813.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1813.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	924	924	924	924	924	
5°	908	906	906	905	905	86
15°	849	849	840	832	828	239
25°	736	731	720	694	675	338
35°	597	592	564	521	508	373
45°	458	448	410	376	361	353
55°	318	309	280	247	234	285
65°	189	178	161	164	137	186
75°	76	70	66	63	69	81
85°	11	12	13	14	15	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	923.5	923.5	923.5	923.5	923.5
2.5°	917.1	917.1	917.1	916.0	916.0
5°	907.5	906.4	906.4	905.4	905.4
7.5°	900.0	899.0	897.9	896.8	894.7
10°	889.4	889.4	888.3	882.9	881.9
12.5°	872.3	871.2	866.9	859.5	857.3
15°	848.8	848.8	840.2	831.7	828.5
17.5°	823.2	822.1	811.4	802.9	798.6
20°	795.4	793.3	782.6	768.7	761.2
22.5°	764.4	764.4	751.6	733.5	726.0
25°	735.6	731.3	719.6	694.0	674.8
27.5°	702.5	696.1	683.3	647.0	624.6
30°	666.2	663.0	644.9	597.9	580.8
32.5°	632.0	626.7	607.5	558.4	544.5
35°	596.8	592.5	563.7	521.0	508.2
37.5°	561.6	556.2	519.9	485.8	469.8
40°	526.4	519.9	480.4	449.5	432.4
42.5°	493.3	484.7	446.3	413.2	394.0
45°	458.0	448.4	410.0	375.8	360.9
47.5°	422.8	414.2	379.0	343.8	326.7
50°	385.4	377.9	345.9	310.7	292.5
52.5°	354.5	342.7	311.8	276.5	261.6
55°	318.2	308.6	279.7	246.6	233.8
57.5°	285.1	275.5	248.8	217.8	207.1
60°	254.1	240.2	217.8	191.1	182.6
62.5°	219.9	209.3	190.0	167.6	178.3
65°	189.0	178.3	161.2	164.4	136.7
67.5°	154.8	149.5	134.5	119.6	115.3
70°	126.0	119.6	114.2	98.2	94.0
72.5°	100.4	94.0	86.5	77.9	74.7
75°	75.8	70.5	66.2	63.0	69.4
77.5°	52.3	50.2	47.0	43.8	42.7
80°	34.2	33.1	32.0	31.0	29.9
82.5°	20.3	20.3	20.3	20.3	20.3
85°	10.7	11.7	12.8	13.9	14.9
87.5°	6.4	6.4	7.5	8.5	9.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)