

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: P559669

Luminaire Tested: FSR-12-2-LD4-1HI-40-UNV-80-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559669  
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-80-86-EDD  
Description: 1X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

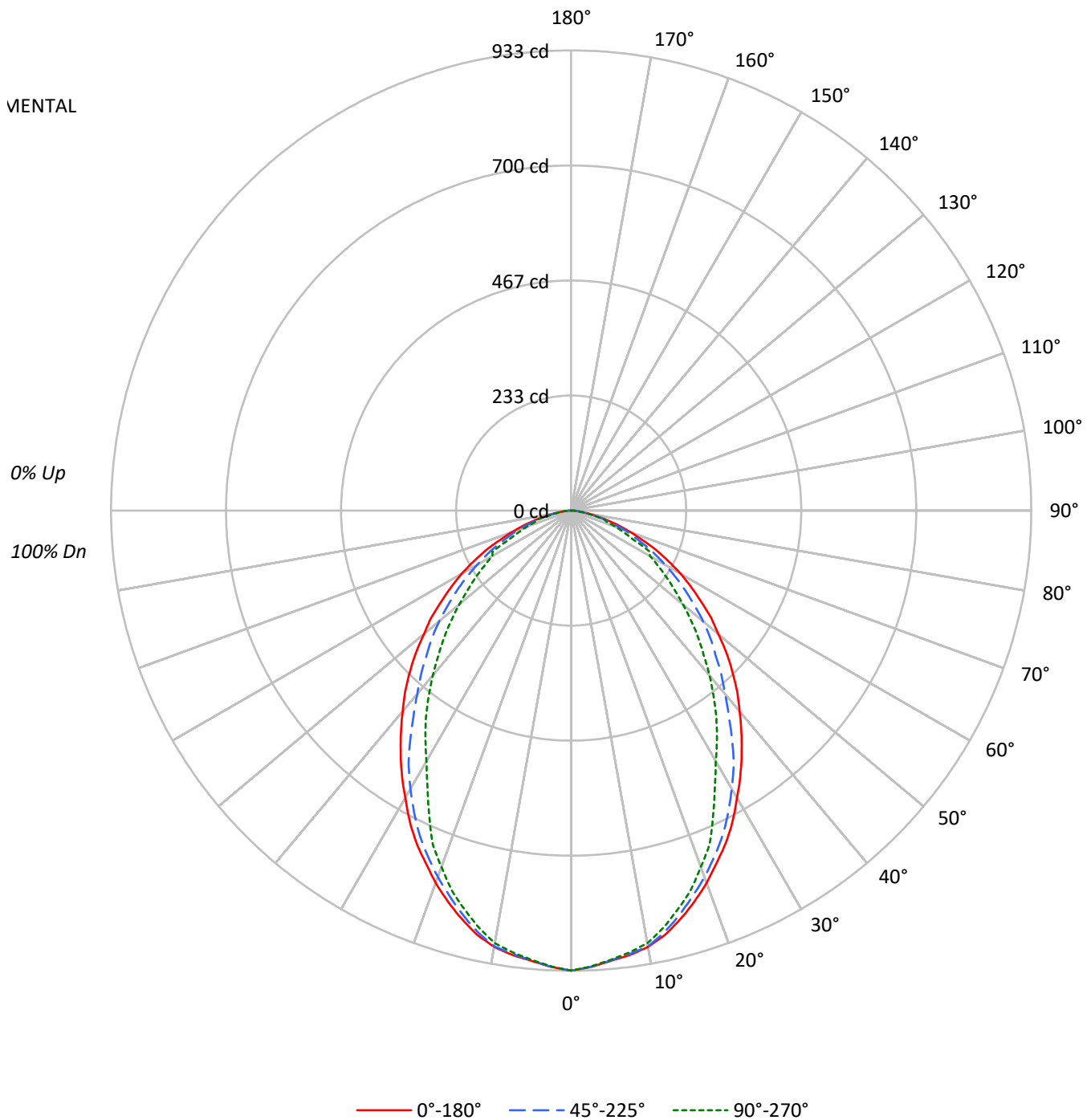
Lumens per Lamp: N/A  
Luminaire Lumens: 1831.0 lumens  
Efficiency: N/A  
Efficacy: 84.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5020	5020	5020
5°	4951	4945	4940
10°	4909	4903	4867
15°	4776	4728	4662
20°	4601	4527	4403
25°	4412	4315	4047
30°	4181	4048	3645
35°	3960	3740	3372
40°	3735	3409	3068
45°	3521	3151	2774
50°	3259	2925	2473
55°	3015	2651	2215
60°	2762	2368	1985
65°	2431	2073	1757
70°	2002	1816	1493
75°	1593	1391	1458
80°	1069	1001	936
85°	667	797	932

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3521 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.8	4.7
10°-20°	238.3	13.0
20°-30°	329.9	18.0
30°-40°	351.7	19.2
40°-50°	320.9	17.5
50°-60°	251.4	13.7
60°-70°	163.9	8.9
70°-80°	72.6	4.0
80°-90°	15.6	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°	655.0	35.8
0°-40°	1006.7	55.0
0°-60°	1579.0	86.2
0°-90°	1831.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1831.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	933	933	933	933	933	
5°	916	915	915	914	914	87
15°	857	857	849	840	837	241
25°	743	739	727	701	682	341
35°	603	598	569	526	513	377
45°	463	453	414	380	364	356
55°	321	312	282	249	236	288
65°	191	180	163	166	138	188
75°	77	71	67	64	70	82
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°	932.7	932.7	932.7	932.7	932.7
2.5°	926.2	926.2	926.2	925.1	925.1
5°	916.5	915.4	915.4	914.4	914.4
7.5°	909.0	907.9	906.8	905.7	903.6
10°	898.2	898.2	897.1	891.7	890.6
12.5°	880.9	879.9	875.5	868.0	865.8
15°	857.2	857.2	848.6	840.0	836.7
17.5°	831.3	830.3	819.5	810.8	806.5
20°	803.3	801.1	790.4	776.3	768.8
22.5°	772.0	772.0	759.1	740.8	733.2
25°	742.9	738.6	726.7	700.9	681.5
27.5°	709.5	703.0	690.1	653.4	630.8
30°	672.8	669.6	651.3	603.8	586.6
32.5°	638.3	632.9	613.5	563.9	549.9
35°	602.7	598.4	569.3	526.2	513.2
37.5°	567.2	561.8	525.1	490.6	474.4
40°	531.6	525.1	485.2	453.9	436.7
42.5°	498.2	489.5	450.7	417.3	397.9
45°	462.6	452.9	414.0	379.5	364.4
47.5°	427.0	418.4	382.8	347.2	329.9
50°	389.2	381.7	349.4	313.8	295.4
52.5°	358.0	346.1	314.8	279.3	264.2
55°	321.3	311.6	282.5	249.1	236.1
57.5°	287.9	278.2	251.2	220.0	209.2
60°	256.6	242.6	220.0	193.0	184.4
62.5°	222.1	211.3	191.9	169.3	180.1
65°	190.9	180.1	162.8	166.1	138.0
67.5°	156.3	151.0	135.9	120.8	116.5
70°	127.2	120.8	115.4	99.2	94.9
72.5°	101.4	94.9	87.3	78.7	75.5
75°	76.6	71.2	66.9	63.6	70.1
77.5°	52.8	50.7	47.4	44.2	43.1
80°	34.5	33.4	32.3	31.3	30.2
82.5°	20.5	20.5	20.5	20.5	20.5
85°	10.8	11.9	12.9	14.0	15.1
87.5°	6.5	6.5	7.5	8.6	9.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)