

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: P560975

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-81-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560975  
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-12-4-LD4-1LO-35-UNV-81-97-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

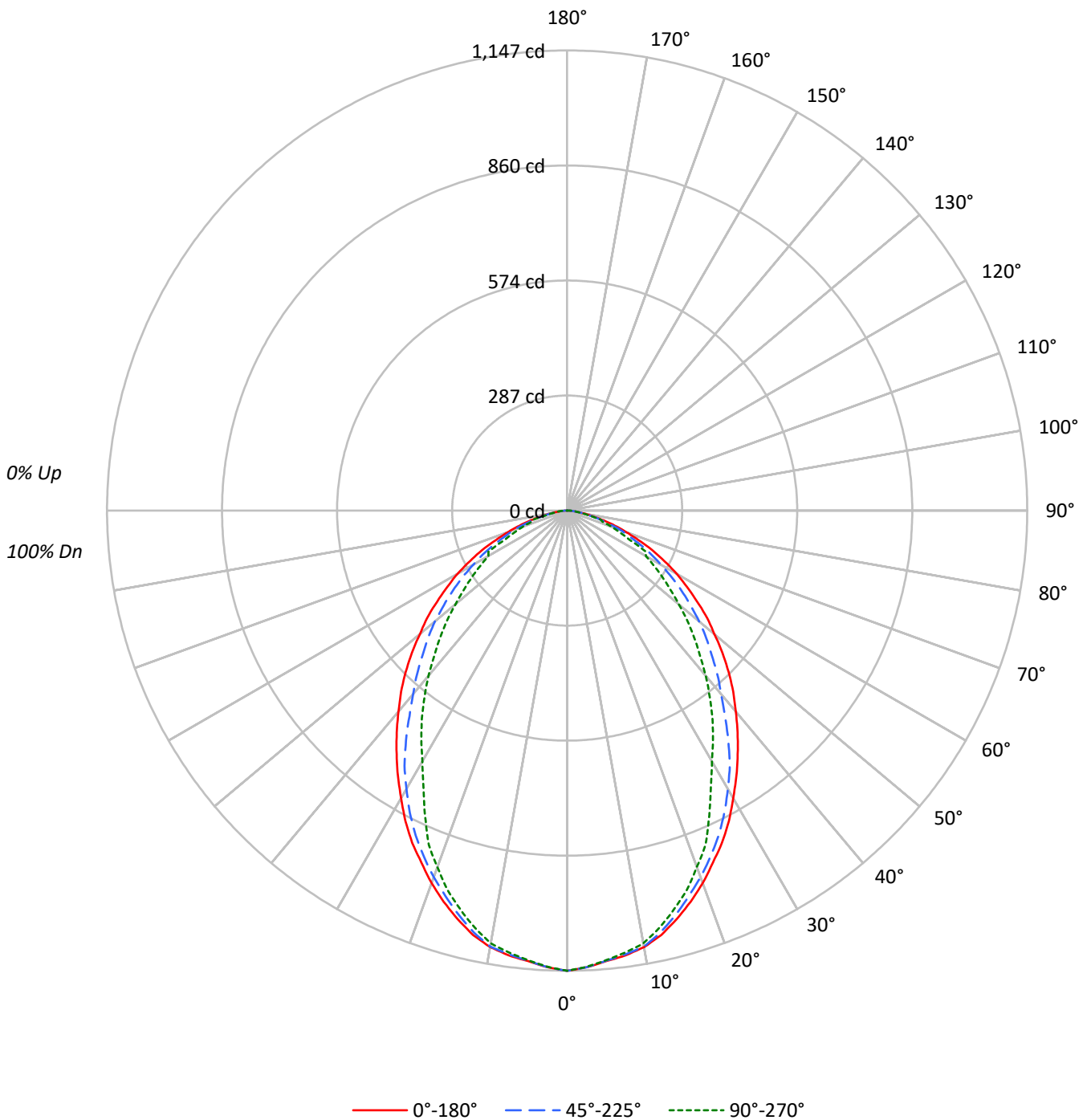
Lumens per Lamp: N/A  
Luminaire Lumens: 2252.0 lumens  
Efficiency: N/A  
Efficacy: 96.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3087	3087	3087
5°	3045	3041	3038
10°	3019	3015	2993
15°	2937	2908	2867
20°	2829	2784	2708
25°	2713	2654	2488
30°	2571	2489	2242
35°	2435	2300	2074
40°	2297	2096	1887
45°	2165	1938	1706
50°	2004	1799	1521
55°	1854	1630	1362
60°	1699	1456	1221
65°	1494	1275	1081
70°	1231	1116	918
75°	979	855	896
80°	657	617	575
85°	411	491	574

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2165 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.8	4.7
10°-20°	293.1	13.0
20°-30°	405.7	18.0
30°-40°	432.6	19.2
40°-50°	394.7	17.5
50°-60°	309.2	13.7
60°-70°	201.5	8.9
70°-80°	89.3	4.0
80°-90°	19.2	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°	805.6	35.8
0°-40°	1238.2	55.0
0°-60°	1942.0	86.2
0°-90°	2252.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2252.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1147	1147	1147	1147	1147	
5°	1127	1126	1126	1125	1125	107
15°	1054	1054	1044	1033	1029	296
25°	914	908	894	862	838	419
35°	741	736	700	647	631	463
45°	569	557	509	467	448	438
55°	395	383	348	306	290	354
65°	235	222	200	204	170	231
75°	94	88	82	78	86	101
85°	13	15	16	17	19	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1147.1	1147.1	1147.1	1147.1	1147.1
2.5°	1139.2	1139.2	1139.2	1137.9	1137.9
5°	1127.2	1125.9	1125.9	1124.6	1124.6
7.5°	1118.0	1116.6	1115.3	1114.0	1111.3
10°	1104.7	1104.7	1103.4	1096.7	1095.4
12.5°	1083.5	1082.2	1076.9	1067.6	1064.9
15°	1054.3	1054.3	1043.7	1033.1	1029.1
17.5°	1022.5	1021.2	1007.9	997.3	992.0
20°	988.0	985.3	972.1	954.8	945.6
22.5°	949.5	949.5	933.6	911.1	901.8
25°	913.7	908.4	893.8	862.0	838.1
27.5°	872.6	864.7	848.8	803.7	775.8
30°	827.5	823.6	801.0	742.7	721.4
32.5°	785.1	778.5	754.6	693.6	676.3
35°	741.3	736.0	700.2	647.2	631.3
37.5°	697.6	690.9	645.8	603.4	583.5
40°	653.8	645.8	596.8	558.3	537.1
42.5°	612.7	602.1	554.3	513.2	489.4
45°	568.9	557.0	509.3	466.8	448.2
47.5°	525.2	514.6	470.8	427.0	405.8
50°	478.7	469.5	429.7	385.9	363.4
52.5°	440.3	425.7	387.2	343.5	324.9
55°	395.2	383.3	347.5	306.3	290.4
57.5°	354.1	342.2	309.0	270.5	257.3
60°	315.6	298.4	270.5	237.4	226.8
62.5°	273.2	259.9	236.1	208.2	221.5
65°	234.7	221.5	200.3	204.2	169.8
67.5°	192.3	185.7	167.1	148.5	143.2
70°	156.5	148.5	141.9	122.0	116.7
72.5°	124.7	116.7	107.4	96.8	92.8
75°	94.2	87.5	82.2	78.2	86.2
77.5°	65.0	62.3	58.4	54.4	53.0
80°	42.4	41.1	39.8	38.5	37.1
82.5°	25.2	25.2	25.2	25.2	25.2
85°	13.3	14.6	15.9	17.2	18.6
87.5°	8.0	8.0	9.3	10.6	11.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)