

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: P561023

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-80-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561023  
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-40-UNV-80-97-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

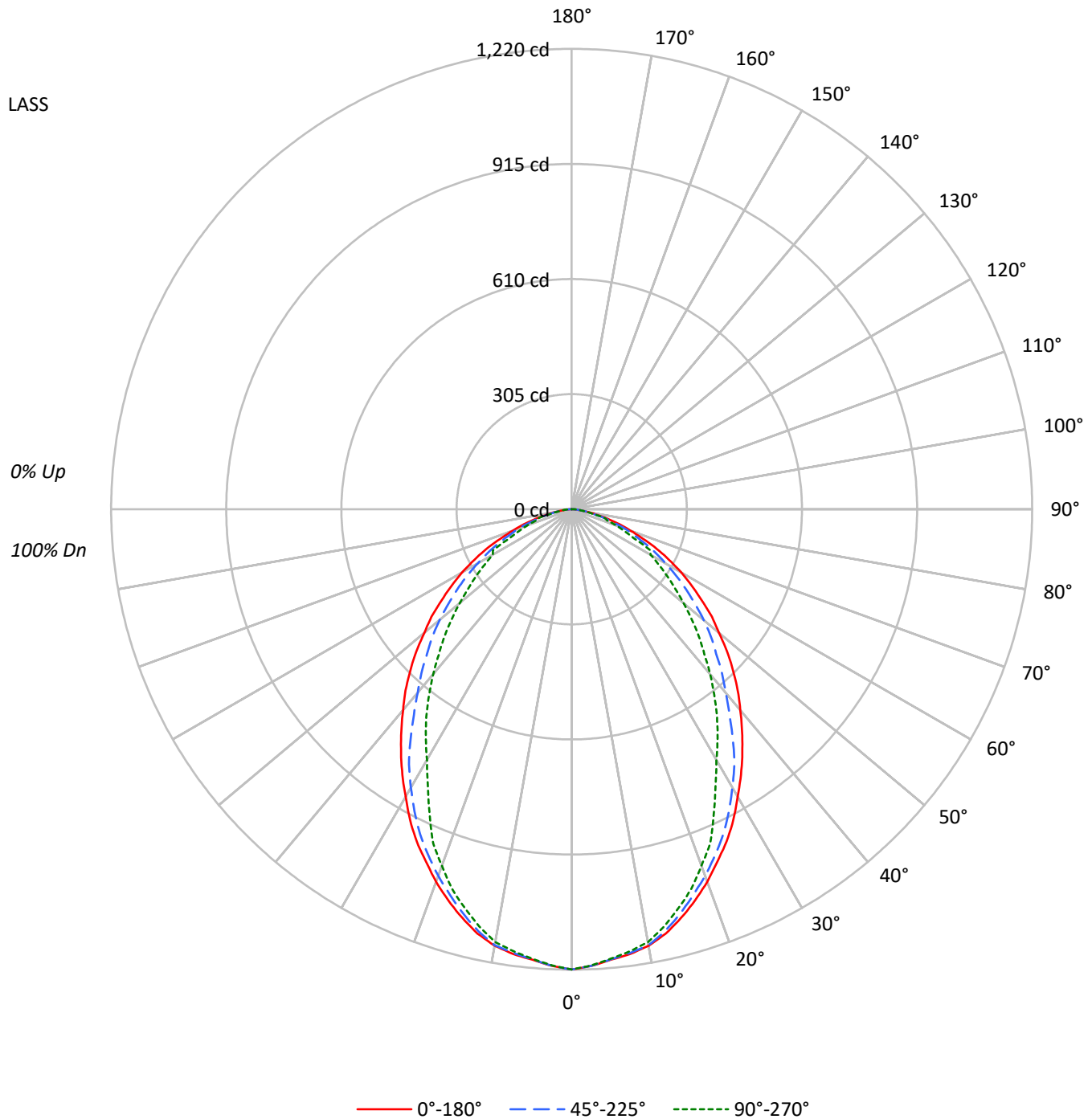
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2394.0 lumens  
Efficiency: N/A  
Efficacy: 102.3 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	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°	3282	3282	3282
5°	3237	3233	3229
10°	3209	3205	3182
15°	3122	3091	3048
20°	3008	2959	2879
25°	2884	2821	2646
30°	2733	2646	2383
35°	2589	2445	2205
40°	2441	2229	2006
45°	2302	2060	1813
50°	2130	1912	1617
55°	1971	1733	1448
60°	1806	1548	1298
65°	1589	1356	1149
70°	1309	1186	976
75°	1041	909	952
80°	699	656	612
85°	435	522	608

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2302 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.5	4.7
10°-20°	311.5	13.0
20°-30°	431.3	18.0
30°-40°	459.9	19.2
40°-50°	419.6	17.5
50°-60°	328.7	13.7
60°-70°	214.2	8.9
70°-80°	94.9	4.0
80°-90°	20.4	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°	856.4	35.8
0°-40°	1316.3	55.0
0°-60°	2064.5	86.2
0°-90°	2394.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2394.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1220	1220	1220	1220	1220	
5°	1198	1197	1197	1196	1196	114
15°	1121	1121	1110	1098	1094	315
25°	971	966	950	916	891	446
35°	788	782	744	688	671	493
45°	605	592	541	496	476	466
55°	420	407	369	326	309	377
65°	250	235	213	217	180	246
75°	100	93	87	83	92	107
85°	14	16	17	18	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1219.5	1219.5	1219.5	1219.5	1219.5
2.5°	1211.0	1211.0	1211.0	1209.6	1209.6
5°	1198.3	1196.9	1196.9	1195.5	1195.5
7.5°	1188.5	1187.0	1185.6	1184.2	1181.4
10°	1174.4	1174.4	1172.9	1165.9	1164.5
12.5°	1151.8	1150.4	1144.8	1134.9	1132.1
15°	1120.8	1120.8	1109.5	1098.2	1094.0
17.5°	1087.0	1085.5	1071.4	1060.2	1054.5
20°	1050.3	1047.5	1033.4	1015.1	1005.2
22.5°	1009.4	1009.4	992.5	968.5	958.7
25°	971.3	965.7	950.2	916.4	891.0
27.5°	927.6	919.2	902.3	854.3	824.7
30°	879.7	875.5	851.5	789.5	766.9
32.5°	834.6	827.5	802.2	737.3	719.0
35°	788.1	782.4	744.4	688.0	671.1
37.5°	741.6	734.5	686.6	641.5	620.3
40°	695.0	686.6	634.4	593.5	571.0
42.5°	651.3	640.0	589.3	545.6	520.2
45°	604.8	592.1	541.4	496.2	476.5
47.5°	558.3	547.0	500.5	454.0	431.4
50°	508.9	499.1	456.8	410.2	386.3
52.5°	468.1	452.5	411.7	365.1	345.4
55°	420.1	407.4	369.4	325.7	308.7
57.5°	376.4	363.7	328.5	287.6	273.5
60°	335.5	317.2	287.6	252.4	241.1
62.5°	290.4	276.3	250.9	221.3	235.4
65°	249.5	235.4	212.9	217.1	180.5
67.5°	204.4	197.4	177.6	157.9	152.3
70°	166.4	157.9	150.8	129.7	124.1
72.5°	132.5	124.1	114.2	102.9	98.7
75°	100.1	93.0	87.4	83.2	91.6
77.5°	69.1	66.3	62.0	57.8	56.4
80°	45.1	43.7	42.3	40.9	39.5
82.5°	26.8	26.8	26.8	26.8	26.8
85°	14.1	15.5	16.9	18.3	19.7
87.5°	8.5	8.5	9.9	11.3	12.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)