

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: P562199

Luminaire Tested: FSR-24-4-LD4-1LO-40-UNV-82-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562199  
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-24-4-LD4-1LO-40-UNV-82-87-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

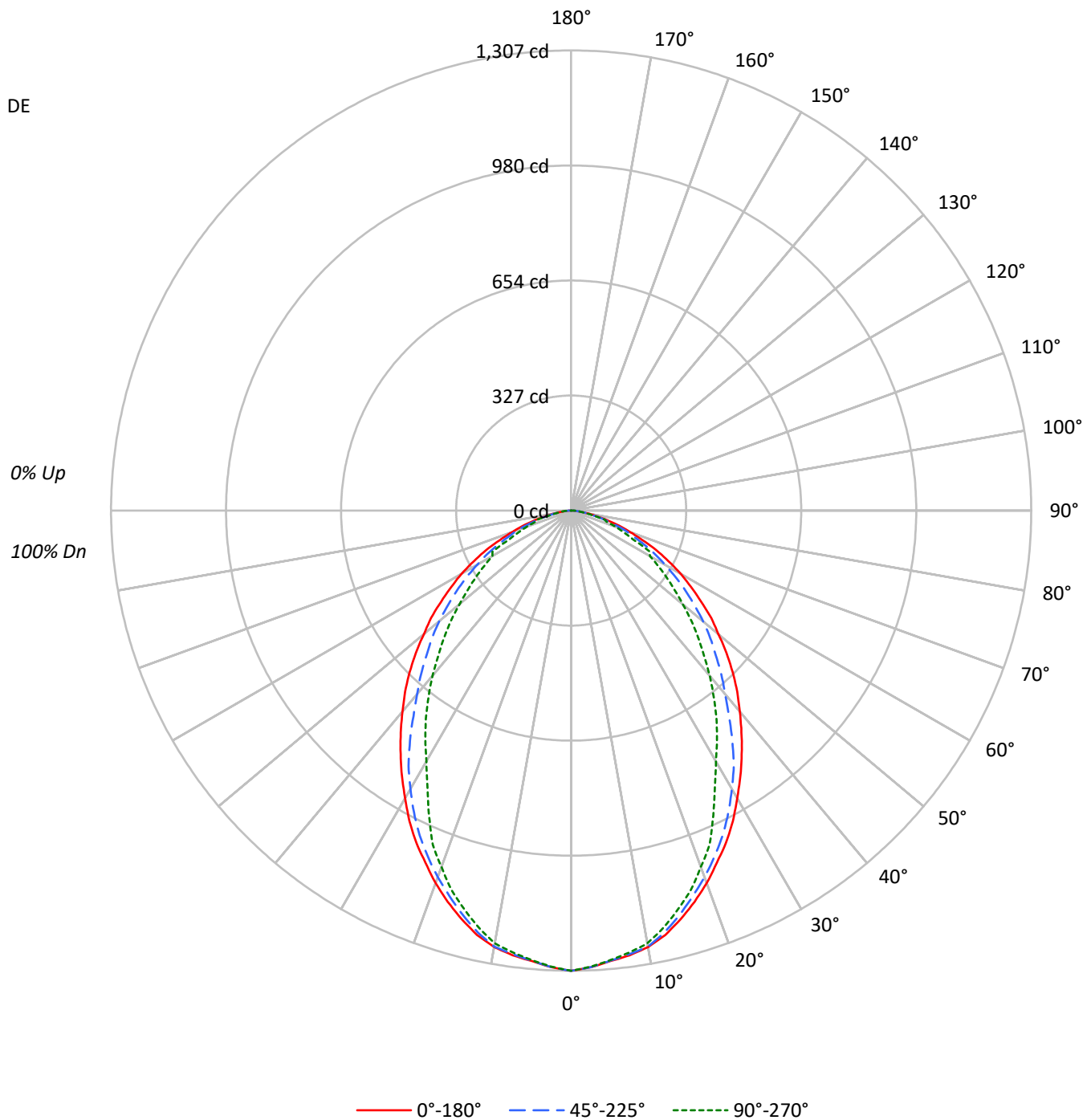
Lumens per Lamp: N/A  
Luminaire Lumens: 2566.0 lumens  
Efficiency: N/A  
Efficacy: 109.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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				
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°	1759	1759	1759
5°	1735	1733	1731
10°	1720	1718	1705
15°	1673	1656	1633
20°	1612	1586	1543
25°	1546	1512	1418
30°	1465	1418	1277
35°	1387	1311	1181
40°	1309	1194	1075
45°	1234	1104	972
50°	1142	1025	867
55°	1056	929	776
60°	968	830	695
65°	852	727	616
70°	701	636	523
75°	558	487	510
80°	375	351	328
85°	233	279	327

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1234 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.7	4.7
10°-20°	333.9	13.0
20°-30°	462.3	18.0
30°-40°	492.9	19.2
40°-50°	449.7	17.5
50°-60°	352.3	13.7
60°-70°	229.6	8.9
70°-80°	101.7	4.0
80°-90°	21.8	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°	917.9	35.8
0°-40°	1410.8	55.0
0°-60°	2212.8	86.2
0°-90°	2566.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2566.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1307	1307	1307	1307	1307	
5°	1284	1283	1283	1281	1281	122
15°	1201	1201	1189	1177	1173	338
25°	1041	1035	1018	982	955	478
35°	845	839	798	737	719	528
45°	648	635	580	532	511	499
55°	450	437	396	349	331	404
65°	268	252	228	233	193	264
75°	107	100	94	89	98	115
85°	15	17	18	20	21	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1307.1	1307.1	1307.1	1307.1	1307.1
2.5°	1298.0	1298.0	1298.0	1296.5	1296.5
5°	1284.4	1282.9	1282.9	1281.4	1281.4
7.5°	1273.8	1272.3	1270.8	1269.3	1266.3
10°	1258.7	1258.7	1257.2	1249.7	1248.2
12.5°	1234.6	1233.0	1227.0	1216.4	1213.4
15°	1201.3	1201.3	1189.2	1177.1	1172.6
17.5°	1165.0	1163.5	1148.4	1136.3	1130.3
20°	1125.8	1122.7	1107.6	1088.0	1077.4
22.5°	1081.9	1081.9	1063.8	1038.1	1027.5
25°	1041.1	1035.1	1018.5	982.2	955.0
27.5°	994.3	985.2	967.1	915.7	884.0
30°	942.9	938.4	912.7	846.2	822.0
32.5°	894.6	887.0	859.8	790.3	770.7
35°	844.7	838.7	797.9	737.4	719.3
37.5°	794.8	787.3	735.9	687.5	664.9
40°	745.0	735.9	680.0	636.2	612.0
42.5°	698.1	686.0	631.6	584.8	557.6
45°	648.3	634.7	580.3	531.9	510.7
47.5°	598.4	586.3	536.4	486.6	462.4
50°	545.5	534.9	489.6	439.7	414.0
52.5°	501.7	485.1	441.2	391.4	370.2
55°	450.3	436.7	395.9	349.1	330.9
57.5°	403.5	389.9	352.1	308.3	293.1
60°	359.6	340.0	308.3	270.5	258.4
62.5°	311.3	296.2	269.0	237.2	252.4
65°	267.5	252.4	228.2	232.7	193.4
67.5°	219.1	211.6	190.4	169.2	163.2
70°	178.3	169.2	161.7	139.0	133.0
72.5°	142.0	133.0	122.4	110.3	105.8
75°	107.3	99.7	93.7	89.2	98.2
77.5°	74.0	71.0	66.5	62.0	60.4
80°	48.4	46.8	45.3	43.8	42.3
82.5°	28.7	28.7	28.7	28.7	28.7
85°	15.1	16.6	18.1	19.6	21.2
87.5°	9.1	9.1	10.6	12.1	13.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)