

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: P562260

Luminaire Tested: FSR-24-4-LD4-1LO-50-UNV-82-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562260  
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-50-UNV-82-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

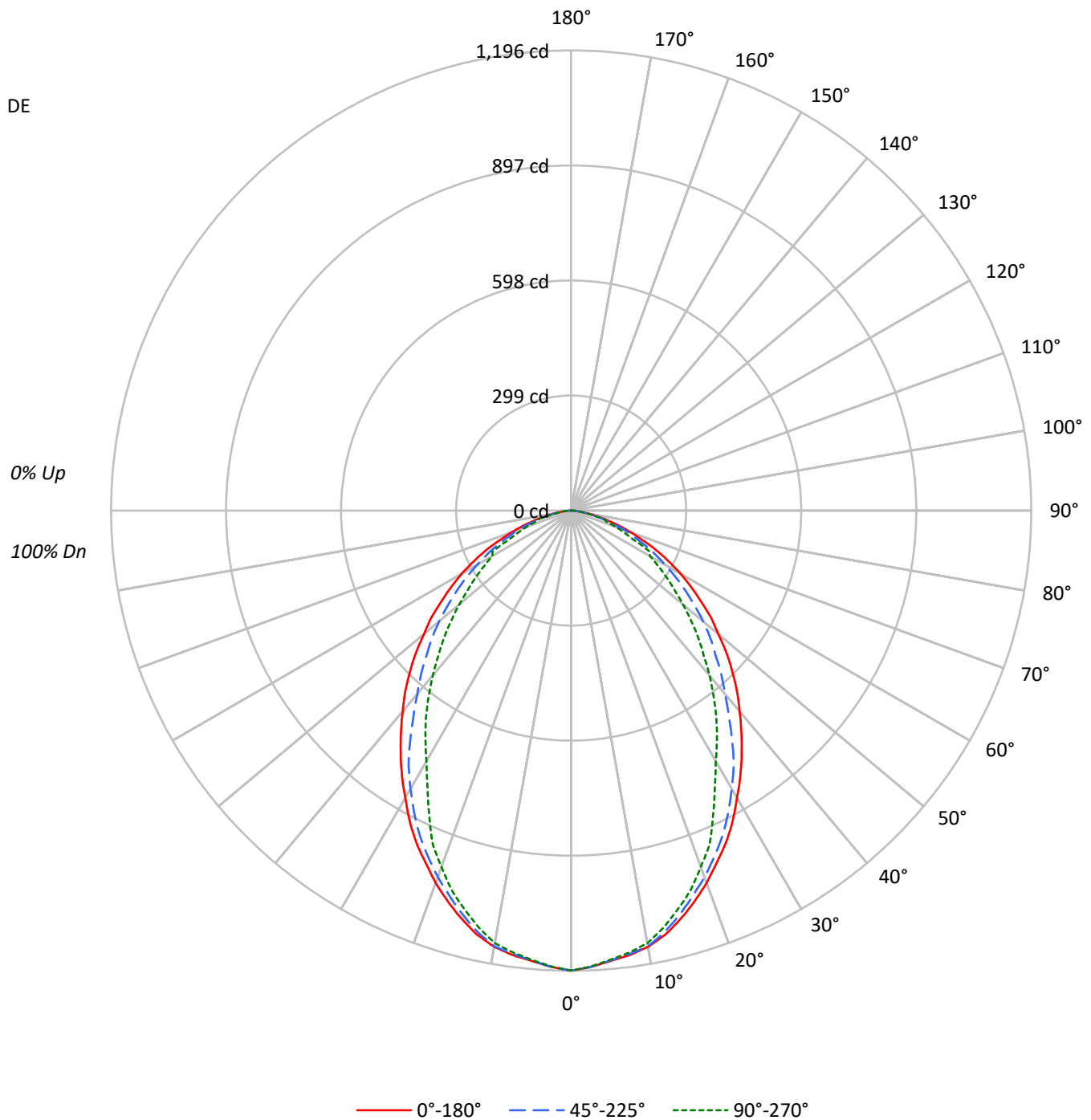
Lumens per Lamp: N/A  
Luminaire Lumens: 2347.0 lumens  
Efficiency: N/A  
Efficacy: 100.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	1609	1609	1609
5°	1587	1585	1583
10°	1573	1571	1560
15°	1531	1515	1494
20°	1474	1451	1411
25°	1414	1383	1297
30°	1340	1297	1168
35°	1269	1199	1081
40°	1197	1092	983
45°	1128	1010	889
50°	1044	937	793
55°	966	849	710
60°	885	759	636
65°	779	664	563
70°	642	582	478
75°	510	446	467
80°	342	322	300
85°	213	256	298

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1128 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.3	4.7
10°-20°	305.4	13.0
20°-30°	422.8	18.0
30°-40°	450.9	19.2
40°-50°	411.3	17.5
50°-60°	322.2	13.7
60°-70°	210.0	8.9
70°-80°	93.0	4.0
80°-90°	20.0	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°	839.5	35.8
0°-40°	1290.4	55.0
0°-60°	2024.0	86.2
0°-90°	2347.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2347.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1196	1196	1196	1196	1196	
5°	1175	1173	1173	1172	1172	112
15°	1099	1099	1088	1077	1072	309
25°	952	947	932	898	874	437
35°	773	767	730	674	658	483
45°	593	580	531	486	467	457
55°	412	399	362	319	303	369
65°	245	231	209	213	177	241
75°	98	91	86	82	90	105
85°	14	15	17	18	19	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1195.5	1195.5	1195.5	1195.5	1195.5
2.5°	1187.2	1187.2	1187.2	1185.9	1185.9
5°	1174.8	1173.4	1173.4	1172.0	1172.0
7.5°	1165.1	1163.7	1162.4	1161.0	1158.2
10°	1151.3	1151.3	1149.9	1143.0	1141.6
12.5°	1129.2	1127.8	1122.3	1112.6	1109.8
15°	1098.8	1098.8	1087.7	1076.7	1072.5
17.5°	1065.6	1064.2	1050.4	1039.4	1033.8
20°	1029.7	1026.9	1013.1	995.1	985.4
22.5°	989.6	989.6	973.0	949.5	939.8
25°	952.3	946.7	931.5	898.4	873.5
27.5°	909.4	901.1	884.6	837.6	808.5
30°	862.4	858.3	834.8	774.0	751.9
32.5°	818.2	811.3	786.4	722.8	704.9
35°	772.6	767.1	729.8	674.5	657.9
37.5°	727.0	720.1	673.1	628.9	608.1
40°	681.4	673.1	622.0	581.9	559.8
42.5°	638.5	627.5	577.7	534.9	510.0
45°	592.9	580.5	530.7	486.5	467.2
47.5°	547.3	536.3	490.7	445.0	422.9
50°	498.9	489.3	447.8	402.2	378.7
52.5°	458.9	443.7	403.6	358.0	338.6
55°	411.9	399.4	362.1	319.3	302.7
57.5°	369.0	356.6	322.0	282.0	268.1
60°	328.9	311.0	282.0	247.4	236.3
62.5°	284.7	270.9	246.0	217.0	230.8
65°	244.6	230.8	208.7	212.8	176.9
67.5°	200.4	193.5	174.1	154.8	149.3
70°	163.1	154.8	147.9	127.2	121.6
72.5°	129.9	121.6	112.0	100.9	96.7
75°	98.1	91.2	85.7	81.5	89.8
77.5°	67.7	65.0	60.8	56.7	55.3
80°	44.2	42.8	41.5	40.1	38.7
82.5°	26.3	26.3	26.3	26.3	26.3
85°	13.8	15.2	16.6	18.0	19.3
87.5°	8.3	8.3	9.7	11.1	12.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)