

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: P560729

Luminaire Tested: FSR-12-2-LD4-2STD-50-UNV-82-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560729  
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-LD4-2STD-50-UNV-82-88-EDD  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

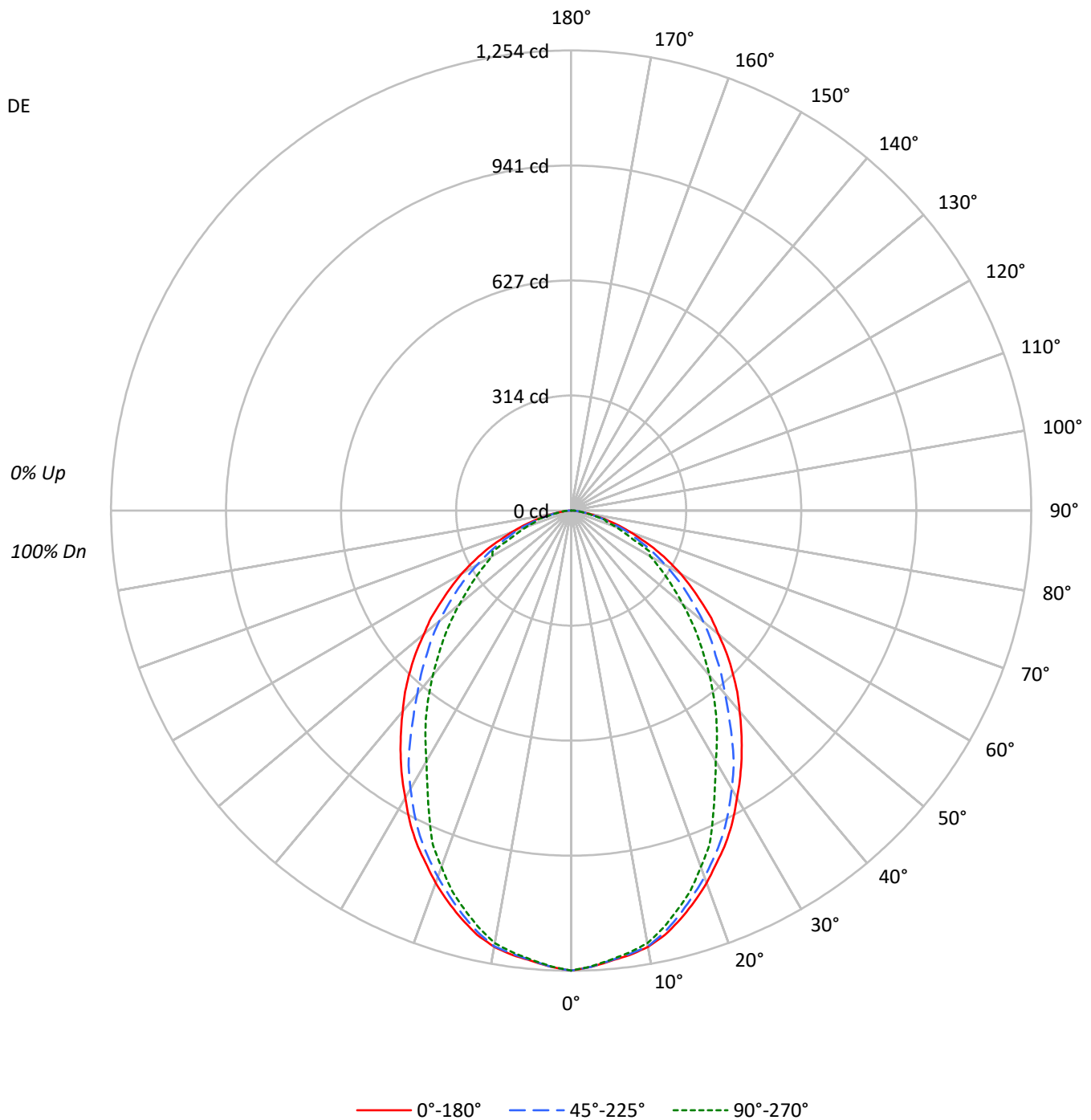
Lumens per Lamp: N/A  
Luminaire Lumens: 2461.0 lumens  
Efficiency: N/A  
Efficacy: 73.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	6747	6747	6747
5°	6655	6647	6640
10°	6597	6590	6542
15°	6420	6355	6266
20°	6184	6084	5918
25°	5929	5801	5439
30°	5620	5440	4900
35°	5322	5027	4532
40°	5020	4582	4123
45°	4732	4236	3728
50°	4381	3932	3325
55°	4053	3563	2978
60°	3712	3182	2667
65°	3266	2786	2362
70°	2691	2441	2006
75°	2140	1869	1959
80°	1438	1348	1258
85°	895	1074	1254

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4732 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.7	4.7
10°-20°	320.3	13.0
20°-30°	443.4	18.0
30°-40°	472.8	19.2
40°-50°	431.3	17.5
50°-60°	337.9	13.7
60°-70°	220.2	8.9
70°-80°	97.6	4.0
80°-90°	20.9	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°	880.3	35.8
0°-40°	1353.1	55.0
0°-60°	2122.3	86.2
0°-90°	2461.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2461.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1254	1254	1254	1254	1254	
5°	1232	1230	1230	1229	1229	117
15°	1152	1152	1141	1129	1125	324
25°	998	993	977	942	916	458
35°	810	804	765	707	690	506
45°	622	609	556	510	490	479
55°	432	419	380	335	317	387
65°	256	242	219	223	186	253
75°	103	96	90	86	94	110
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1253.6	1253.6	1253.6	1253.6	1253.6
2.5°	1244.9	1244.9	1244.9	1243.5	1243.5
5°	1231.9	1230.4	1230.4	1229.0	1229.0
7.5°	1221.7	1220.3	1218.8	1217.4	1214.5
10°	1207.2	1207.2	1205.8	1198.5	1197.1
12.5°	1184.0	1182.6	1176.8	1166.6	1163.7
15°	1152.2	1152.2	1140.6	1129.0	1124.6
17.5°	1117.4	1115.9	1101.4	1089.8	1084.0
20°	1079.7	1076.8	1062.3	1043.5	1033.3
22.5°	1037.7	1037.7	1020.3	995.6	985.5
25°	998.5	992.7	976.8	942.0	915.9
27.5°	953.6	944.9	927.5	878.2	847.8
30°	904.3	900.0	875.3	811.6	788.4
32.5°	858.0	850.7	824.6	758.0	739.1
35°	810.1	804.3	765.2	707.2	689.8
37.5°	762.3	755.1	705.8	659.4	637.7
40°	714.5	705.8	652.2	610.1	586.9
42.5°	669.6	658.0	605.8	560.9	534.8
45°	621.7	608.7	556.5	510.1	489.8
47.5°	573.9	562.3	514.5	466.7	443.5
50°	523.2	513.0	469.6	421.7	397.1
52.5°	481.2	465.2	423.2	375.4	355.1
55°	431.9	418.8	379.7	334.8	317.4
57.5°	386.9	373.9	337.7	295.6	281.2
60°	344.9	326.1	295.6	259.4	247.8
62.5°	298.5	284.1	258.0	227.5	242.0
65°	256.5	242.0	218.8	223.2	185.5
67.5°	210.1	202.9	182.6	162.3	156.5
70°	171.0	162.3	155.1	133.3	127.5
72.5°	136.2	127.5	117.4	105.8	101.4
75°	102.9	95.7	89.9	85.5	94.2
77.5°	71.0	68.1	63.8	59.4	58.0
80°	46.4	44.9	43.5	42.0	40.6
82.5°	27.5	27.5	27.5	27.5	27.5
85°	14.5	15.9	17.4	18.8	20.3
87.5°	8.7	8.7	10.1	11.6	13.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)