

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: P560578

Luminaire Tested: FSR-12-2-LD4-2STD-35-UNV-81-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560578  
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-35-UNV-81-85-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

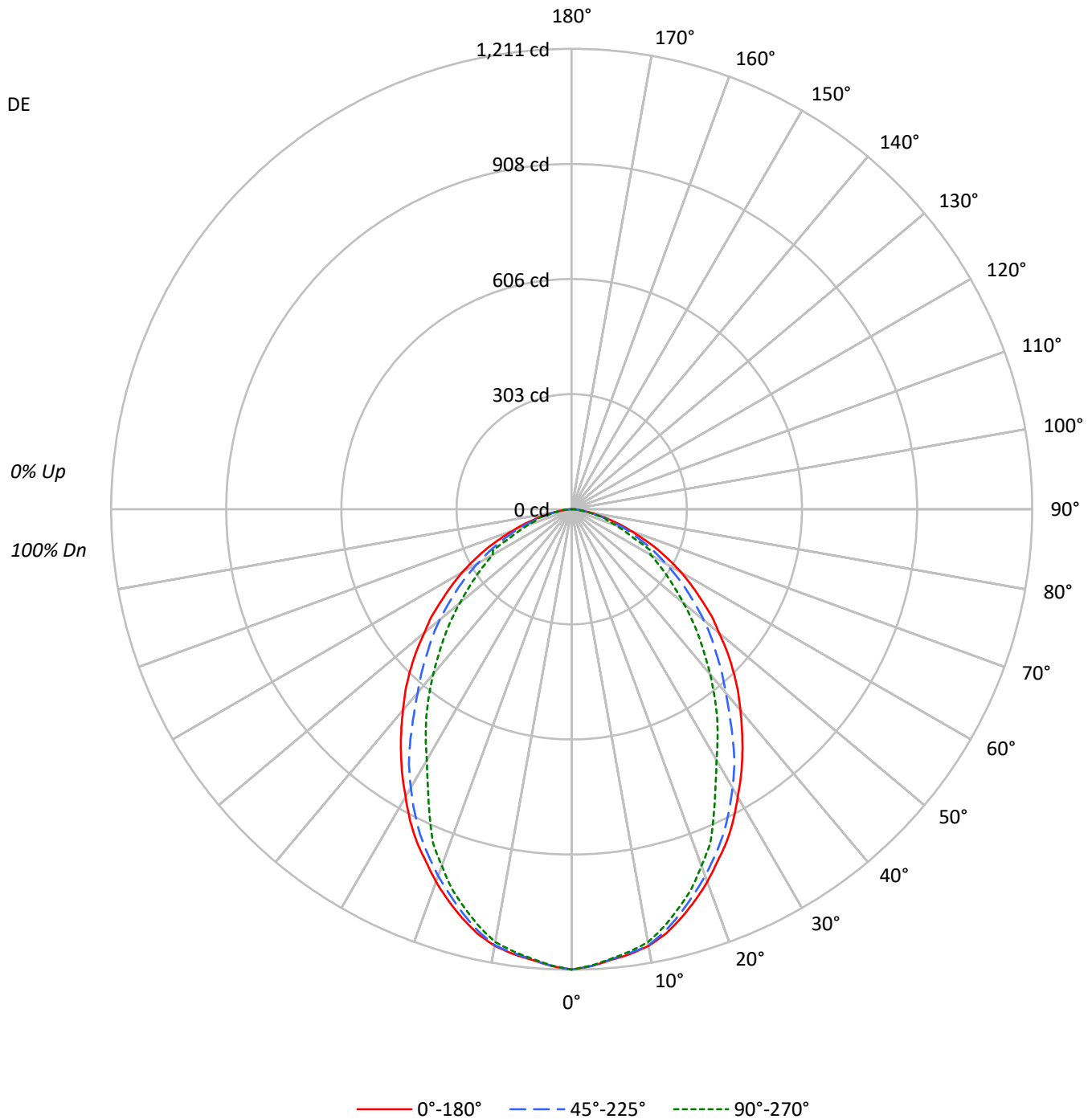
Lumens per Lamp: N/A  
Luminaire Lumens: 2377.0 lumens  
Efficiency: N/A  
Efficacy: 71.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	6516	6516	6516
5°	6428	6420	6413
10°	6372	6365	6319
15°	6200	6138	6052
20°	5972	5876	5716
25°	5728	5603	5254
30°	5428	5254	4732
35°	5141	4856	4378
40°	4848	4425	3983
45°	4571	4091	3601
50°	4231	3797	3211
55°	3914	3441	2877
60°	3585	3074	2577
65°	3156	2692	2282
70°	2600	2357	1939
75°	2067	1805	1892
80°	1389	1302	1215
85°	865	1037	1210

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4571 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	112.7	4.7
10°-20°	309.3	13.0
20°-30°	428.2	18.0
30°-40°	456.6	19.2
40°-50°	416.6	17.5
50°-60°	326.3	13.7
60°-70°	212.7	8.9
70°-80°	94.3	4.0
80°-90°	20.2	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°	850.3	35.8
0°-40°	1306.9	55.0
0°-60°	2049.8	86.2
0°-90°	2377.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2377.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1211	1211	1211	1211	1211	
5°	1190	1188	1188	1187	1187	113
15°	1113	1113	1102	1090	1086	313
25°	964	959	944	910	885	443
35°	782	777	739	683	666	489
45°	600	588	538	493	473	463
55°	417	404	367	323	307	374
65°	248	234	211	216	179	244
75°	99	92	87	83	91	107
85°	14	15	17	18	20	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1210.8	1210.8	1210.8	1210.8	1210.8
2.5°	1202.4	1202.4	1202.4	1201.0	1201.0
5°	1189.8	1188.4	1188.4	1187.0	1187.0
7.5°	1180.0	1178.6	1177.2	1175.8	1173.0
10°	1166.0	1166.0	1164.6	1157.6	1156.2
12.5°	1143.6	1142.2	1136.6	1126.8	1124.0
15°	1112.8	1112.8	1101.6	1090.4	1086.2
17.5°	1079.2	1077.8	1063.8	1052.6	1047.0
20°	1042.8	1040.0	1026.0	1007.8	998.0
22.5°	1002.2	1002.2	985.4	961.7	951.9
25°	964.5	958.9	943.5	909.9	884.7
27.5°	921.1	912.7	895.9	848.3	818.9
30°	873.5	869.3	845.5	783.9	761.5
32.5°	828.7	821.7	796.5	732.1	713.9
35°	782.5	776.9	739.1	683.1	666.3
37.5°	736.3	729.3	681.7	636.9	615.9
40°	690.1	681.7	629.9	589.3	566.9
42.5°	646.7	635.5	585.1	541.7	516.5
45°	600.5	587.9	537.5	492.7	473.1
47.5°	554.3	543.1	496.9	450.7	428.3
50°	505.3	495.5	453.5	407.3	383.5
52.5°	464.7	449.3	408.7	362.5	342.9
55°	417.1	404.5	366.7	323.3	306.6
57.5°	373.7	361.1	326.1	285.6	271.6
60°	333.1	315.0	285.6	250.6	239.4
62.5°	288.4	274.4	249.2	219.8	233.8
65°	247.8	233.8	211.4	215.6	179.2
67.5°	203.0	196.0	176.4	156.8	151.2
70°	165.2	156.8	149.8	128.8	123.2
72.5°	131.6	123.2	113.4	102.2	98.0
75°	99.4	92.4	86.8	82.6	91.0
77.5°	68.6	65.8	61.6	57.4	56.0
80°	44.8	43.4	42.0	40.6	39.2
82.5°	26.6	26.6	26.6	26.6	26.6
85°	14.0	15.4	16.8	18.2	19.6
87.5°	8.4	8.4	9.8	11.2	12.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)