

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: P560652

Luminaire Tested: FSR-12-2-LD4-2STD-40-UNV-81-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560652  
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-40-UNV-81-96-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

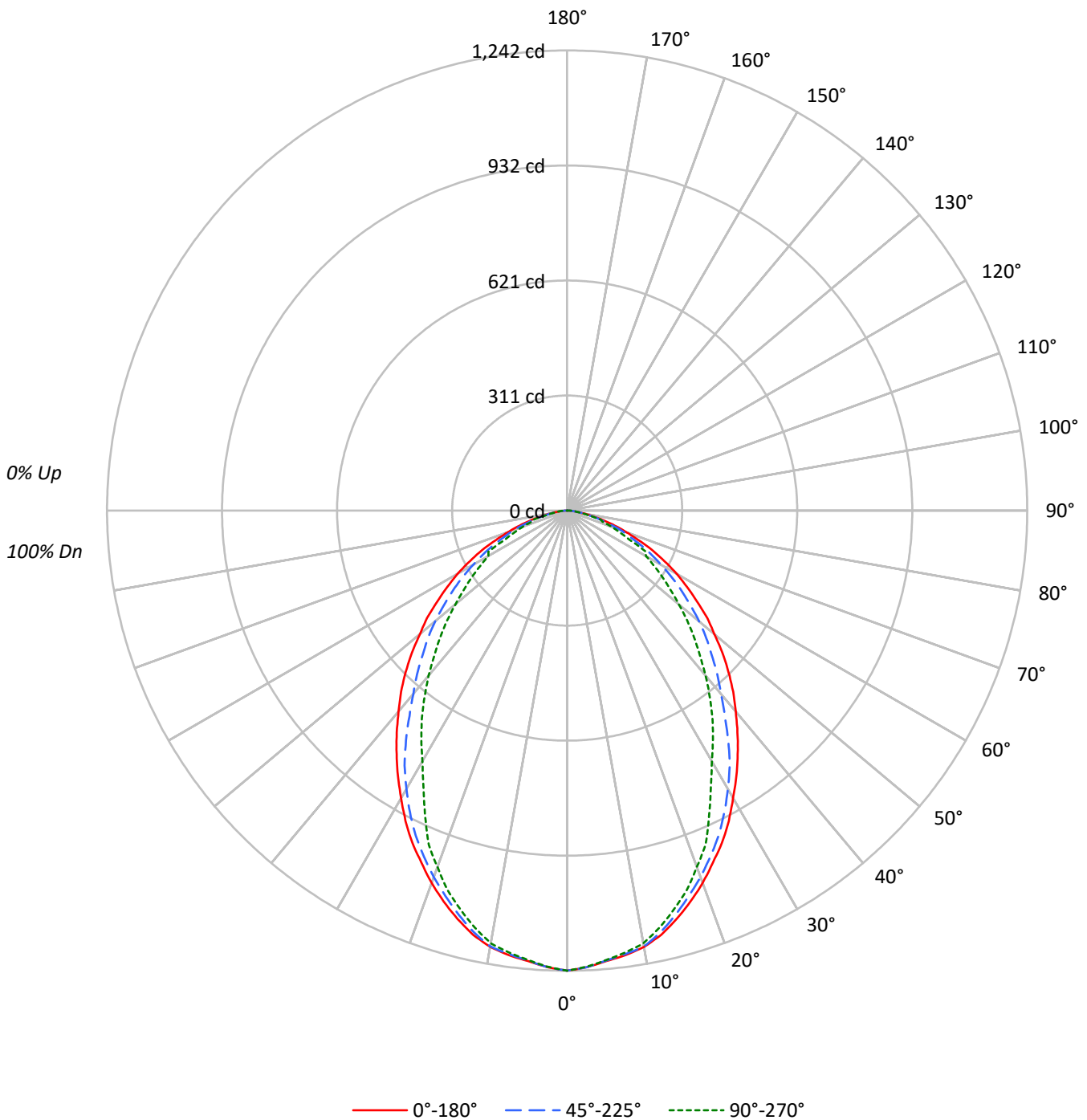
Lumens per Lamp: N/A  
Luminaire Lumens: 2438.0 lumens  
Efficiency: N/A  
Efficacy: 73.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	6684	6684	6684
5°	6593	6585	6578
10°	6536	6528	6481
15°	6360	6296	6208
20°	6126	6027	5863
25°	5874	5747	5388
30°	5568	5389	4854
35°	5273	4981	4490
40°	4973	4539	4085
45°	4688	4196	3694
50°	4340	3895	3294
55°	4014	3530	2950
60°	3678	3153	2643
65°	3236	2761	2341
70°	2666	2417	1987
75°	2119	1851	1940
80°	1423	1336	1246
85°	889	1062	1241

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4688 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.6	4.7
10°-20°	317.3	13.0
20°-30°	439.2	18.0
30°-40°	468.3	19.2
40°-50°	427.3	17.5
50°-60°	334.7	13.7
60°-70°	218.2	8.9
70°-80°	96.7	4.0
80°-90°	20.8	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°	872.1	35.8
0°-40°	1340.4	55.0
0°-60°	2102.4	86.2
0°-90°	2438.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2438.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1242	1242	1242	1242	1242	
5°	1220	1219	1219	1218	1218	116
15°	1141	1141	1130	1118	1114	321
25°	989	984	968	933	907	454
35°	803	797	758	701	683	502
45°	616	603	551	505	485	474
55°	428	415	376	332	314	384
65°	254	240	217	221	184	250
75°	102	95	89	85	93	109
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°	1241.9	1241.9	1241.9	1241.9	1241.9
2.5°	1233.3	1233.3	1233.3	1231.8	1231.8
5°	1220.3	1218.9	1218.9	1217.5	1217.5
7.5°	1210.3	1208.9	1207.4	1206.0	1203.1
10°	1195.9	1195.9	1194.5	1187.3	1185.9
12.5°	1173.0	1171.5	1165.8	1155.7	1152.9
15°	1141.4	1141.4	1129.9	1118.4	1114.1
17.5°	1106.9	1105.5	1091.1	1079.6	1073.9
20°	1069.6	1066.7	1052.4	1033.7	1023.7
22.5°	1028.0	1028.0	1010.7	986.3	976.3
25°	989.2	983.5	967.7	933.2	907.4
27.5°	944.7	936.1	918.9	870.0	839.9
30°	895.9	891.6	867.2	804.0	781.0
32.5°	849.9	842.8	816.9	750.9	732.2
35°	802.6	796.8	758.1	700.6	683.4
37.5°	755.2	748.0	699.2	653.2	631.7
40°	707.8	699.2	646.1	604.4	581.5
42.5°	663.3	651.8	600.1	555.6	529.8
45°	615.9	603.0	551.3	505.4	485.3
47.5°	568.5	557.1	509.7	462.3	439.3
50°	518.3	508.2	465.2	417.8	393.4
52.5°	476.7	460.9	419.2	371.8	351.7
55°	427.8	414.9	376.2	331.6	314.4
57.5°	383.3	370.4	334.5	292.9	278.5
60°	341.7	323.0	292.9	257.0	245.5
62.5°	295.8	281.4	255.6	225.4	239.8
65°	254.1	239.8	216.8	221.1	183.8
67.5°	208.2	201.0	180.9	160.8	155.1
70°	169.4	160.8	153.6	132.1	126.3
72.5°	135.0	126.3	116.3	104.8	100.5
75°	101.9	94.8	89.0	84.7	93.3
77.5°	70.3	67.5	63.2	58.9	57.4
80°	45.9	44.5	43.1	41.6	40.2
82.5°	27.3	27.3	27.3	27.3	27.3
85°	14.4	15.8	17.2	18.7	20.1
87.5°	8.6	8.6	10.0	11.5	12.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)