

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: P560097

Luminaire Tested: FSR-12-2-LD4-1STD-40-UNV-93-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560097  
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-LD4-1STD-40-UNV-93-84-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

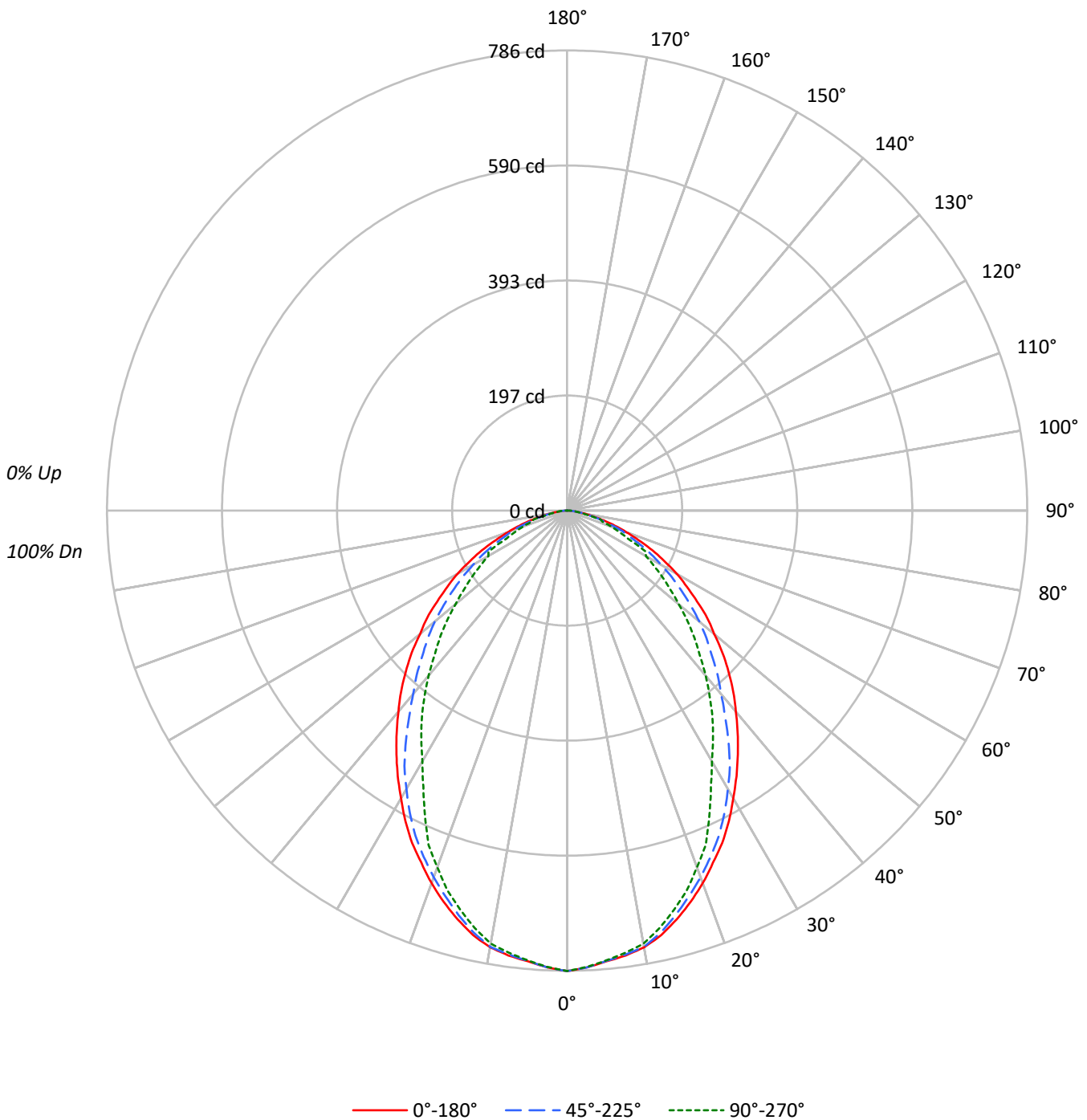
Lumens per Lamp: N/A  
Luminaire Lumens: 1544.0 lumens  
Efficiency: N/A  
Efficacy: 93.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4233	4233	4233
5°	4176	4170	4165
10°	4139	4134	4104
15°	4027	3987	3931
20°	3880	3817	3713
25°	3720	3639	3412
30°	3526	3413	3074
35°	3340	3154	2844
40°	3150	2875	2587
45°	2969	2657	2339
50°	2748	2467	2086
55°	2543	2235	1868
60°	2329	1997	1674
65°	2049	1748	1482
70°	1688	1531	1259
75°	1343	1173	1229
80°	902	846	790
85°	562	673	784

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2969 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.2	4.7
10°-20°	200.9	13.0
20°-30°	278.2	18.0
30°-40°	296.6	19.2
40°-50°	270.6	17.5
50°-60°	212.0	13.7
60°-70°	138.2	8.9
70°-80°	61.2	4.0
80°-90°	13.2	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°	552.3	35.8
0°-40°	848.9	55.0
0°-60°	1331.5	86.2
0°-90°	1544.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1544.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	786	786	786	786	786	
5°	773	772	772	771	771	73
15°	723	723	716	708	706	203
25°	626	623	613	591	575	288
35°	508	505	480	444	433	318
45°	390	382	349	320	307	300
55°	271	263	238	210	199	243
65°	161	152	137	140	116	159
75°	65	60	56	54	59	69
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	786.5	786.5	786.5	786.5	786.5
2.5°	781.0	781.0	781.0	780.1	780.1
5°	772.9	771.9	771.9	771.0	771.0
7.5°	766.5	765.6	764.7	763.8	761.9
10°	757.4	757.4	756.5	751.9	751.0
12.5°	742.8	741.9	738.3	731.9	730.1
15°	722.8	722.8	715.6	708.3	705.6
17.5°	701.0	700.1	691.0	683.7	680.1
20°	677.4	675.6	666.5	654.7	648.3
22.5°	651.0	651.0	640.1	624.6	618.3
25°	626.5	622.8	612.8	591.0	574.6
27.5°	598.3	592.8	581.9	551.0	531.9
30°	567.4	564.6	549.2	509.2	494.6
32.5°	538.3	533.7	517.4	475.5	463.7
35°	508.3	504.6	480.1	443.7	432.8
37.5°	478.3	473.7	442.8	413.7	400.1
40°	448.3	442.8	409.2	382.8	368.2
42.5°	420.1	412.8	380.1	351.9	335.5
45°	390.1	381.9	349.1	320.1	307.3
47.5°	360.1	352.8	322.8	292.8	278.2
50°	328.2	321.9	294.6	264.6	249.1
52.5°	301.9	291.9	265.5	235.5	222.8
55°	271.0	262.8	238.2	210.0	199.1
57.5°	242.8	234.6	211.9	185.5	176.4
60°	216.4	204.6	185.5	162.8	155.5
62.5°	187.3	178.2	161.8	142.8	151.8
65°	160.9	151.8	137.3	140.0	116.4
67.5°	131.8	127.3	114.6	101.8	98.2
70°	107.3	101.8	97.3	83.7	80.0
72.5°	85.5	80.0	73.6	66.4	63.6
75°	64.6	60.0	56.4	53.6	59.1
77.5°	44.6	42.7	40.0	37.3	36.4
80°	29.1	28.2	27.3	26.4	25.5
82.5°	17.3	17.3	17.3	17.3	17.3
85°	9.1	10.0	10.9	11.8	12.7
87.5°	5.5	5.5	6.4	7.3	8.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)