

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: P560493

Luminaire Tested: FSR-12-2-LD4-2LO-40-UNV-93-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560493  
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-LD4-2LO-40-UNV-93-96-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

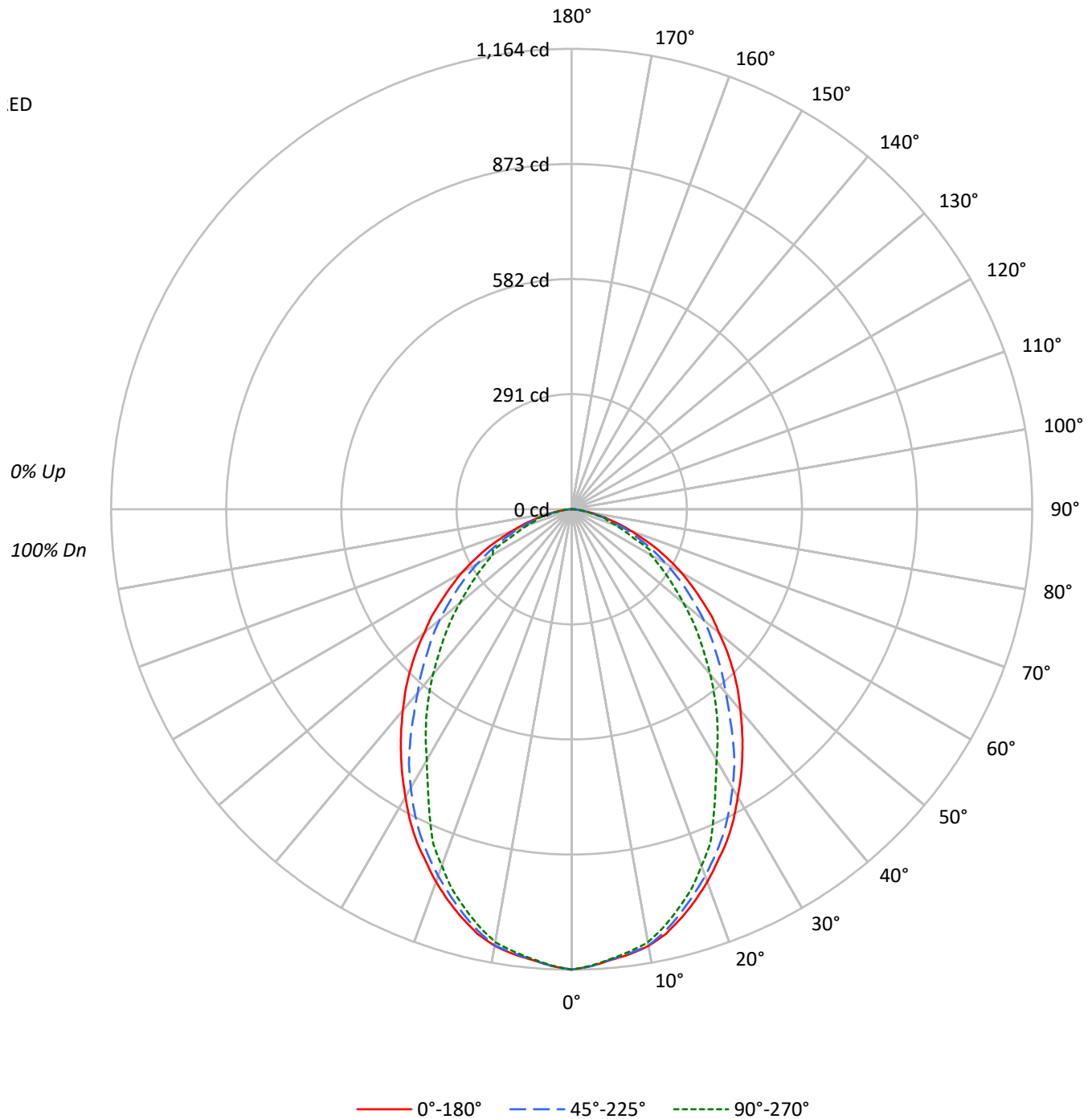
Lumens per Lamp: N/A  
Luminaire Lumens: 2285.0 lumens  
Efficiency: N/A  
Efficacy: 97.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	6264	6264	6264
5°	6179	6172	6165
10°	6126	6118	6074
15°	5961	5901	5818
20°	5742	5649	5495
25°	5505	5385	5050
30°	5218	5051	4549
35°	4942	4668	4208
40°	4661	4254	3829
45°	4394	3933	3462
50°	4068	3651	3087
55°	3763	3308	2765
60°	3448	2955	2477
65°	3033	2588	2193
70°	2499	2266	1863
75°	1986	1734	1820
80°	1336	1252	1168
85°	834	994	1161

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4394 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.3	4.7
10°-20°	297.4	13.0
20°-30°	411.7	18.0
30°-40°	439.0	19.2
40°-50°	400.5	17.5
50°-60°	313.7	13.7
60°-70°	204.5	8.9
70°-80°	90.6	4.0
80°-90°	19.5	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°	817.4	35.8
0°-40°	1256.3	55.0
0°-60°	1970.5	86.2
0°-90°	2285.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2285.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1164	1164	1164	1164	1164	
5°	1144	1142	1142	1141	1141	109
15°	1070	1070	1059	1048	1044	301
25°	927	922	907	875	850	426
35°	752	747	710	657	640	470
45°	577	565	517	474	455	445
55°	401	389	352	311	295	360
65°	238	225	203	207	172	235
75°	96	89	83	79	88	102
85°	14	15	16	18	19	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1163.9	1163.9	1163.9	1163.9	1163.9
2.5°	1155.9	1155.9	1155.9	1154.5	1154.5
5°	1143.8	1142.4	1142.4	1141.1	1141.1
7.5°	1134.3	1133.0	1131.7	1130.3	1127.6
10°	1120.9	1120.9	1119.5	1112.8	1111.5
12.5°	1099.4	1098.0	1092.6	1083.2	1080.5
15°	1069.8	1069.8	1059.0	1048.2	1044.2
17.5°	1037.5	1036.1	1022.7	1011.9	1006.5
20°	1002.5	999.8	986.3	968.8	959.4
22.5°	963.5	963.5	947.3	924.4	915.0
25°	927.1	921.7	906.9	874.6	850.4
27.5°	885.4	877.3	861.2	815.4	787.2
30°	839.7	835.6	812.7	753.5	732.0
32.5°	796.6	789.9	765.6	703.8	686.3
35°	752.2	746.8	710.5	656.7	640.5
37.5°	707.8	701.1	655.3	612.3	592.1
40°	663.4	655.3	605.5	566.5	545.0
42.5°	621.7	610.9	562.5	520.7	496.5
45°	577.3	565.2	516.7	473.7	454.8
47.5°	532.9	522.1	477.7	433.3	411.8
50°	485.8	476.3	436.0	391.6	368.7
52.5°	446.7	431.9	392.9	348.5	329.7
55°	401.0	388.9	352.5	310.8	294.7
57.5°	359.3	347.2	313.5	274.5	261.0
60°	320.3	302.8	274.5	240.9	230.1
62.5°	277.2	263.7	239.5	211.3	224.7
65°	238.2	224.7	203.2	207.2	172.2
67.5°	195.1	188.4	169.5	150.7	145.3
70°	158.8	150.7	144.0	123.8	118.4
72.5°	126.5	118.4	109.0	98.2	94.2
75°	95.5	88.8	83.4	79.4	87.5
77.5°	65.9	63.2	59.2	55.2	53.8
80°	43.1	41.7	40.4	39.0	37.7
82.5°	25.6	25.6	25.6	25.6	25.6
85°	13.5	14.8	16.1	17.5	18.8
87.5°	8.1	8.1	9.4	10.8	12.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)