

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: P559715

Luminaire Tested: FSR-12-2-LD4-1HI-40-UNV-93-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559715  
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-LD4-1HI-40-UNV-93-85-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

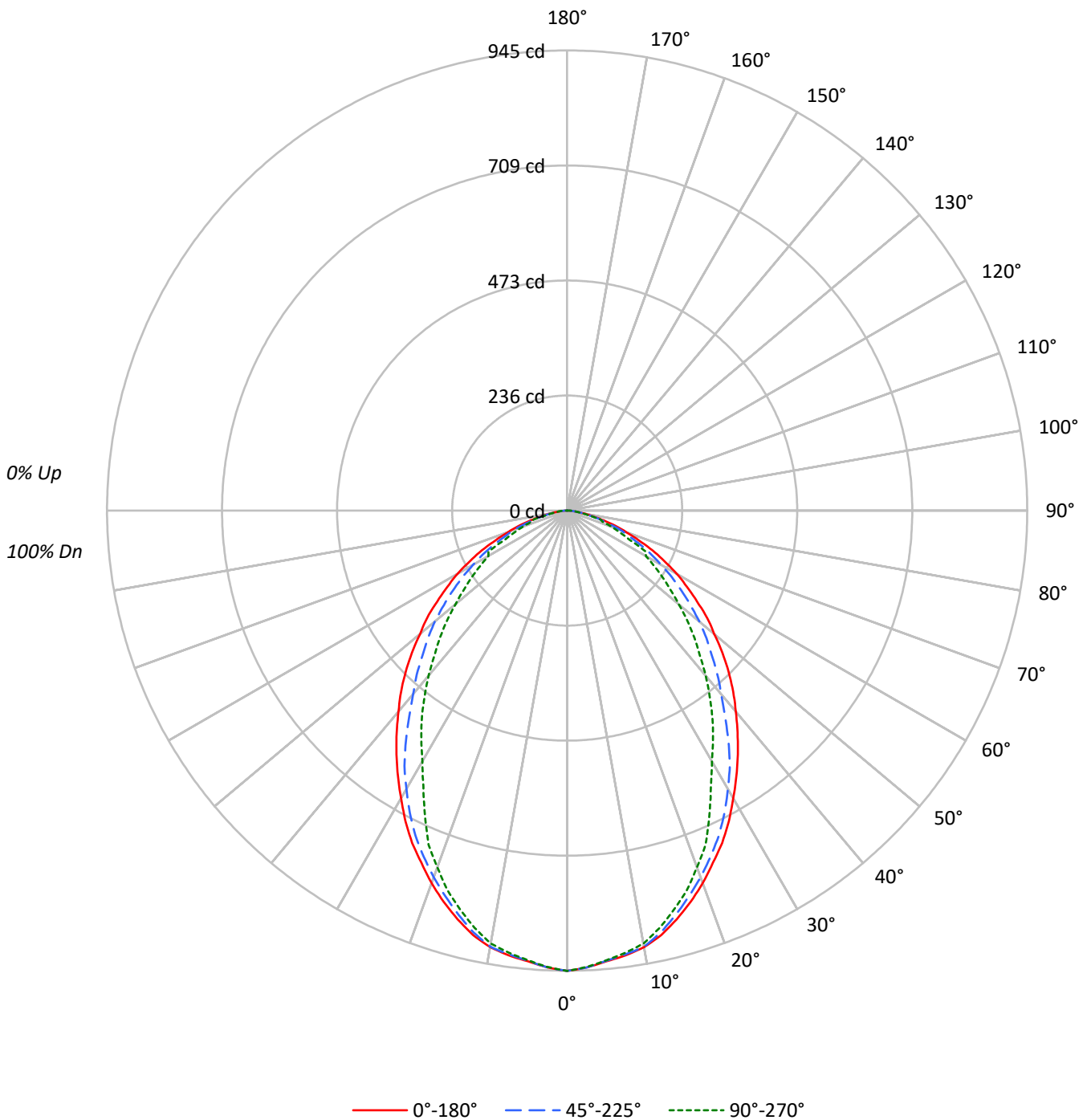
Lumens per Lamp: N/A  
Luminaire Lumens: 1856.0 lumens  
Efficiency: N/A  
Efficacy: 85.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5088	5088	5088
5°	5019	5013	5007
10°	4975	4970	4934
15°	4841	4793	4725
20°	4664	4588	4463
25°	4472	4375	4102
30°	4238	4103	3695
35°	4014	3792	3418
40°	3785	3455	3110
45°	3569	3194	2812
50°	3304	2965	2508
55°	3056	2687	2246
60°	2800	2400	2012
65°	2464	2101	1782
70°	2030	1840	1514
75°	1614	1410	1476
80°	1085	1017	948
85°	673	809	945

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3569 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	88.0	4.7
10°-20°	241.5	13.0
20°-30°	334.4	18.0
30°-40°	356.5	19.2
40°-50°	325.3	17.5
50°-60°	254.8	13.7
60°-70°	166.1	8.9
70°-80°	73.6	4.0
80°-90°	15.8	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°	663.9	35.8
0°-40°	1020.5	55.0
0°-60°	1600.5	86.2
0°-90°	1856.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1856.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	945	945	945	945	945	
5°	929	928	928	927	927	88
15°	869	869	860	851	848	244
25°	753	749	737	710	691	346
35°	611	607	577	533	520	382
45°	469	459	420	385	369	361
55°	326	316	286	252	239	292
65°	194	182	165	168	140	191
75°	78	72	68	64	71	83
85°	11	12	13	14	15	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	945.4	945.4	945.4	945.4	945.4
2.5°	938.9	938.9	938.9	937.8	937.8
5°	929.0	927.9	927.9	926.8	926.8
7.5°	921.4	920.3	919.2	918.1	915.9
10°	910.4	910.4	909.4	903.9	902.8
12.5°	893.0	891.9	887.5	879.8	877.7
15°	868.9	868.9	860.2	851.4	848.1
17.5°	842.7	841.6	830.7	821.9	817.5
20°	814.3	812.1	801.1	786.9	779.3
22.5°	782.6	782.6	769.5	750.9	743.2
25°	753.1	748.7	736.7	710.4	690.8
27.5°	719.2	712.6	699.5	662.3	639.4
30°	682.0	678.7	660.2	612.1	594.6
32.5°	647.0	641.6	621.9	571.6	557.4
35°	611.0	606.6	577.1	533.4	520.3
37.5°	574.9	569.4	532.3	497.3	480.9
40°	538.8	532.3	491.8	460.1	442.7
42.5°	505.0	496.2	456.9	423.0	403.3
45°	468.9	459.0	419.7	384.7	369.4
47.5°	432.8	424.1	388.0	351.9	334.4
50°	394.6	386.9	354.1	318.1	299.5
52.5°	362.9	350.8	319.1	283.1	267.8
55°	325.7	315.9	286.4	252.5	239.4
57.5°	291.8	282.0	254.7	223.0	212.0
60°	260.1	245.9	223.0	195.6	186.9
62.5°	225.2	214.2	194.5	171.6	182.5
65°	193.5	182.5	165.0	168.3	139.9
67.5°	158.5	153.0	137.7	122.4	118.0
70°	129.0	122.4	116.9	100.6	96.2
72.5°	102.7	96.2	88.5	79.8	76.5
75°	77.6	72.1	67.8	64.5	71.0
77.5°	53.6	51.4	48.1	44.8	43.7
80°	35.0	33.9	32.8	31.7	30.6
82.5°	20.8	20.8	20.8	20.8	20.8
85°	10.9	12.0	13.1	14.2	15.3
87.5°	6.6	6.6	7.7	8.7	9.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)