

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: P560227

Luminaire Tested: FSR-12-2-LD4-2HI-35-UNV-93-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560227  
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-LD4-2HI-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

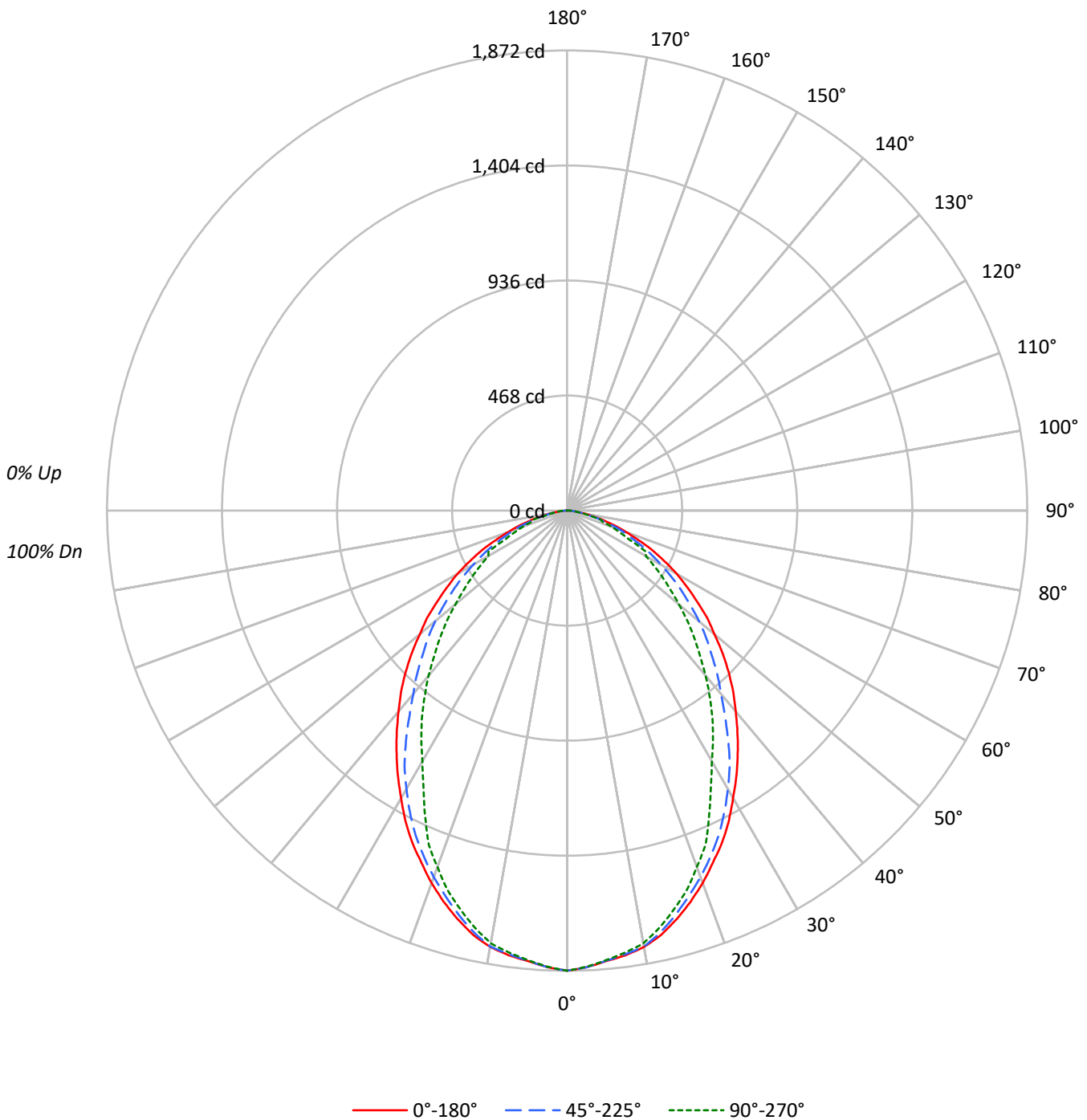
Lumens per Lamp: N/A  
Luminaire Lumens: 3675.0 lumens  
Efficiency: N/A  
Efficacy: 85.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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									
RC	80									70									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	100	100	100	100	100													
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87													
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75													
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65													
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56													
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50													
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44													
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40													
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36													
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33													
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30													

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	10075	10075	10075
5°	9938	9927	9915
10°	9852	9840	9769
15°	9586	9490	9357
20°	9234	9085	8837
25°	8855	8662	8122
30°	8392	8124	7316
35°	7949	7508	6768
40°	7496	6842	6158
45°	7066	6325	5568
50°	6542	5871	4965
55°	6051	5320	4448
60°	5544	4752	3984
65°	4879	4162	3528
70°	4019	3644	2996
75°	3196	2791	2926
80°	2148	2011	1878
85°	1334	1606	1871

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7066 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.3	4.7
10°-20°	478.2	13.0
20°-30°	662.1	18.0
30°-40°	706.0	19.2
40°-50°	644.1	17.5
50°-60°	504.6	13.7
60°-70°	328.9	8.9
70°-80°	145.7	4.0
80°-90°	31.3	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°	1314.6	35.8
0°-40°	2020.5	55.0
0°-60°	3169.2	86.2
0°-90°	3675.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3675.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1872	1872	1872	1872	1872	
5°	1840	1837	1837	1835	1835	175
15°	1720	1720	1703	1686	1679	484
25°	1491	1482	1459	1407	1368	685
35°	1210	1201	1143	1056	1030	756
45°	928	909	831	762	732	715
55°	645	625	567	500	474	578
65°	383	361	327	333	277	378
75°	154	143	134	128	141	165
85°	22	24	26	28	30	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1872.0	1872.0	1872.0	1872.0	1872.0
2.5°	1859.0	1859.0	1859.0	1856.8	1856.8
5°	1839.5	1837.4	1837.4	1835.2	1835.2
7.5°	1824.4	1822.2	1820.1	1817.9	1813.6
10°	1802.7	1802.7	1800.6	1789.8	1787.6
12.5°	1768.1	1766.0	1757.3	1742.1	1737.8
15°	1720.5	1720.5	1703.2	1685.9	1679.4
17.5°	1668.6	1666.4	1644.8	1627.4	1618.8
20°	1612.3	1608.0	1586.3	1558.2	1543.0
22.5°	1549.5	1549.5	1523.6	1486.8	1471.6
25°	1491.1	1482.4	1458.6	1406.7	1367.7
27.5°	1424.0	1411.0	1385.1	1311.5	1266.0
30°	1350.4	1343.9	1307.2	1211.9	1177.3
32.5°	1281.2	1270.4	1231.4	1131.9	1103.7
35°	1209.8	1201.1	1142.7	1056.1	1030.1
37.5°	1138.3	1127.5	1053.9	984.7	952.2
40°	1066.9	1053.9	973.9	911.1	876.5
42.5°	999.8	982.5	904.6	837.5	798.6
45°	928.4	908.9	831.0	761.8	731.5
47.5°	857.0	839.7	768.3	696.9	662.2
50°	781.3	766.1	701.2	629.8	593.0
52.5°	718.5	694.7	631.9	560.5	530.2
55°	644.9	625.4	567.0	499.9	474.0
57.5°	577.8	558.4	504.2	441.5	419.8
60°	515.1	486.9	441.5	387.4	370.1
62.5°	445.8	424.2	385.2	339.8	361.4
65°	383.1	361.4	326.8	333.3	277.0
67.5°	313.8	303.0	272.7	242.4	233.7
70°	255.4	242.4	231.6	199.1	190.4
72.5°	203.4	190.4	175.3	158.0	151.5
75°	153.7	142.8	134.2	127.7	140.7
77.5°	106.0	101.7	95.2	88.7	86.6
80°	69.3	67.1	64.9	62.8	60.6
82.5°	41.1	41.1	41.1	41.1	41.1
85°	21.6	23.8	26.0	28.1	30.3
87.5°	13.0	13.0	15.1	17.3	19.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)