

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: P560293

Luminaire Tested: FSR-12-2-LD4-2HI-40-UNV-93-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560293  
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-40-UNV-93-86-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

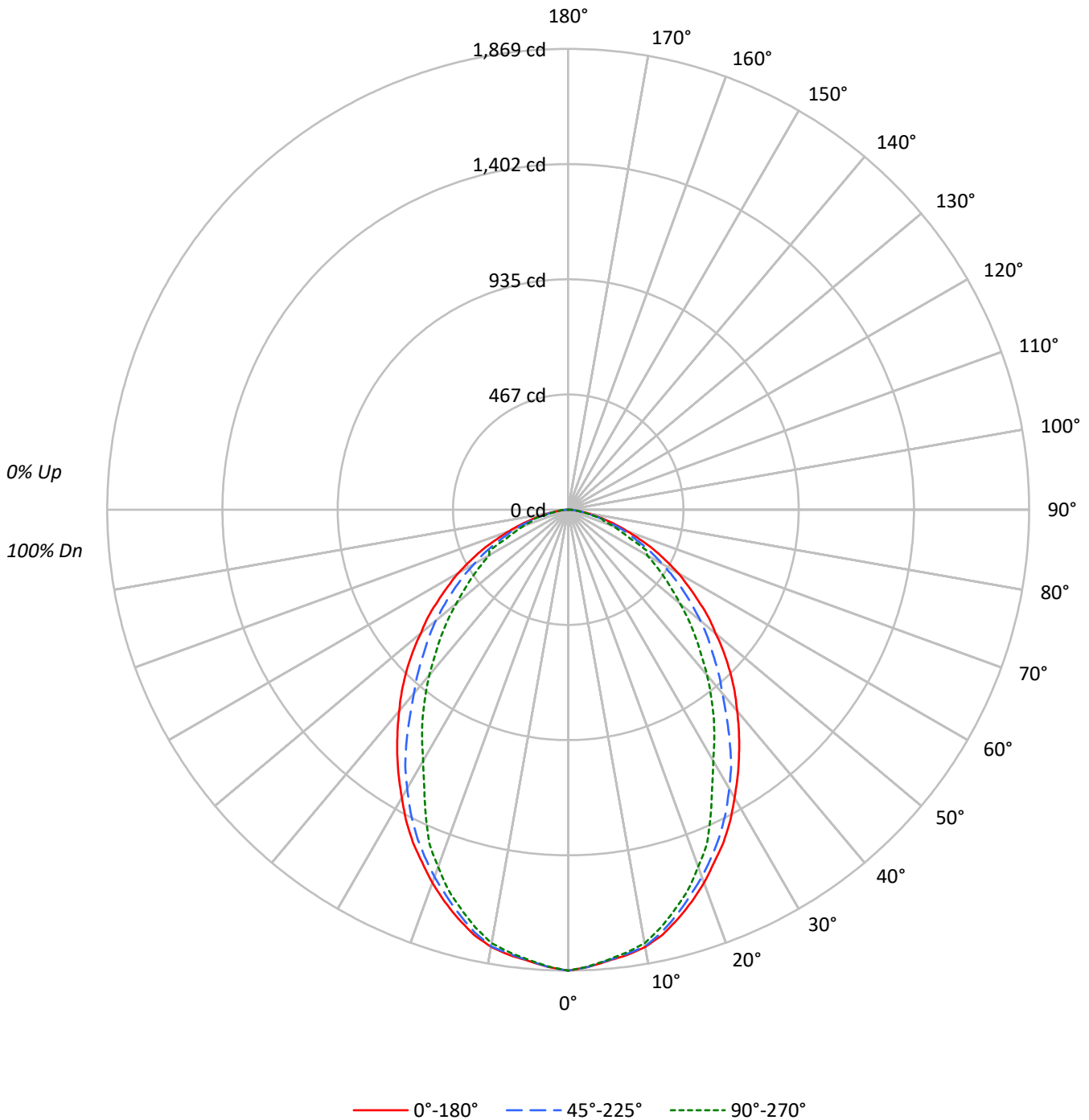
Lumens per Lamp: N/A  
Luminaire Lumens: 3670.0 lumens  
Efficiency: N/A  
Efficacy: 85.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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									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°	10061	10061	10061
5°	9924	9913	9901
10°	9839	9827	9756
15°	9573	9477	9344
20°	9222	9073	8825
25°	8843	8650	8111
30°	8381	8112	7306
35°	7937	7497	6759
40°	7486	6832	6150
45°	7057	6317	5560
50°	6532	5863	4958
55°	6043	5313	4441
60°	5537	4746	3978
65°	4871	4155	3522
70°	4013	3638	2993
75°	3190	2786	2922
80°	2145	2008	1875
85°	1334	1599	1871

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7057 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.0	4.7
10°-20°	477.6	13.0
20°-30°	661.2	18.0
30°-40°	705.0	19.2
40°-50°	643.2	17.5
50°-60°	503.9	13.7
60°-70°	328.4	8.9
70°-80°	145.5	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°	1312.8	35.8
0°-40°	2017.8	55.0
0°-60°	3164.9	86.2
0°-90°	3670.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3670.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1869	1869	1869	1869	1869	
5°	1837	1835	1835	1833	1833	174
15°	1718	1718	1701	1684	1677	483
25°	1489	1480	1457	1405	1366	684
35°	1208	1200	1141	1055	1029	755
45°	927	908	830	761	730	714
55°	644	625	566	499	473	578
65°	382	361	326	333	277	377
75°	153	143	134	128	140	164
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°	1869.4	1869.4	1869.4	1869.4	1869.4
2.5°	1856.5	1856.5	1856.5	1854.3	1854.3
5°	1837.0	1834.9	1834.9	1832.7	1832.7
7.5°	1821.9	1819.7	1817.6	1815.4	1811.1
10°	1800.3	1800.3	1798.1	1787.3	1785.2
12.5°	1765.7	1763.5	1754.9	1739.8	1735.5
15°	1718.2	1718.2	1700.9	1683.6	1677.1
17.5°	1666.3	1664.1	1642.5	1625.2	1616.6
20°	1610.1	1605.8	1584.2	1556.1	1540.9
22.5°	1547.4	1547.4	1521.5	1484.8	1469.6
25°	1489.1	1480.4	1456.7	1404.8	1365.9
27.5°	1422.1	1409.1	1383.2	1309.7	1264.3
30°	1348.6	1342.1	1305.4	1210.3	1175.7
32.5°	1279.4	1268.6	1229.7	1130.3	1102.2
35°	1208.1	1199.5	1141.1	1054.7	1028.7
37.5°	1136.8	1126.0	1052.5	983.4	950.9
40°	1065.5	1052.5	972.5	909.9	875.3
42.5°	998.5	981.2	903.4	836.4	797.5
45°	927.2	907.7	829.9	760.7	730.5
47.5°	855.8	838.6	767.2	695.9	661.3
50°	780.2	765.1	700.2	628.9	592.2
52.5°	717.5	693.7	631.1	559.8	529.5
55°	644.0	624.6	566.2	499.2	473.3
57.5°	577.0	557.6	503.6	440.9	419.3
60°	514.4	486.3	440.9	386.9	369.6
62.5°	445.2	423.6	384.7	339.3	360.9
65°	382.5	360.9	326.3	332.8	276.6
67.5°	313.4	302.6	272.3	242.1	233.4
70°	255.0	242.1	231.2	198.8	190.2
72.5°	203.2	190.2	175.1	157.8	151.3
75°	153.4	142.6	134.0	127.5	140.5
77.5°	105.9	101.6	95.1	88.6	86.4
80°	69.2	67.0	64.8	62.7	60.5
82.5°	41.1	41.1	41.1	41.1	41.1
85°	21.6	23.8	25.9	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)