

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: P560037

Luminaire Tested: FSR-12-2-LD4-1STD-35-UNV-93-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560037  
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-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

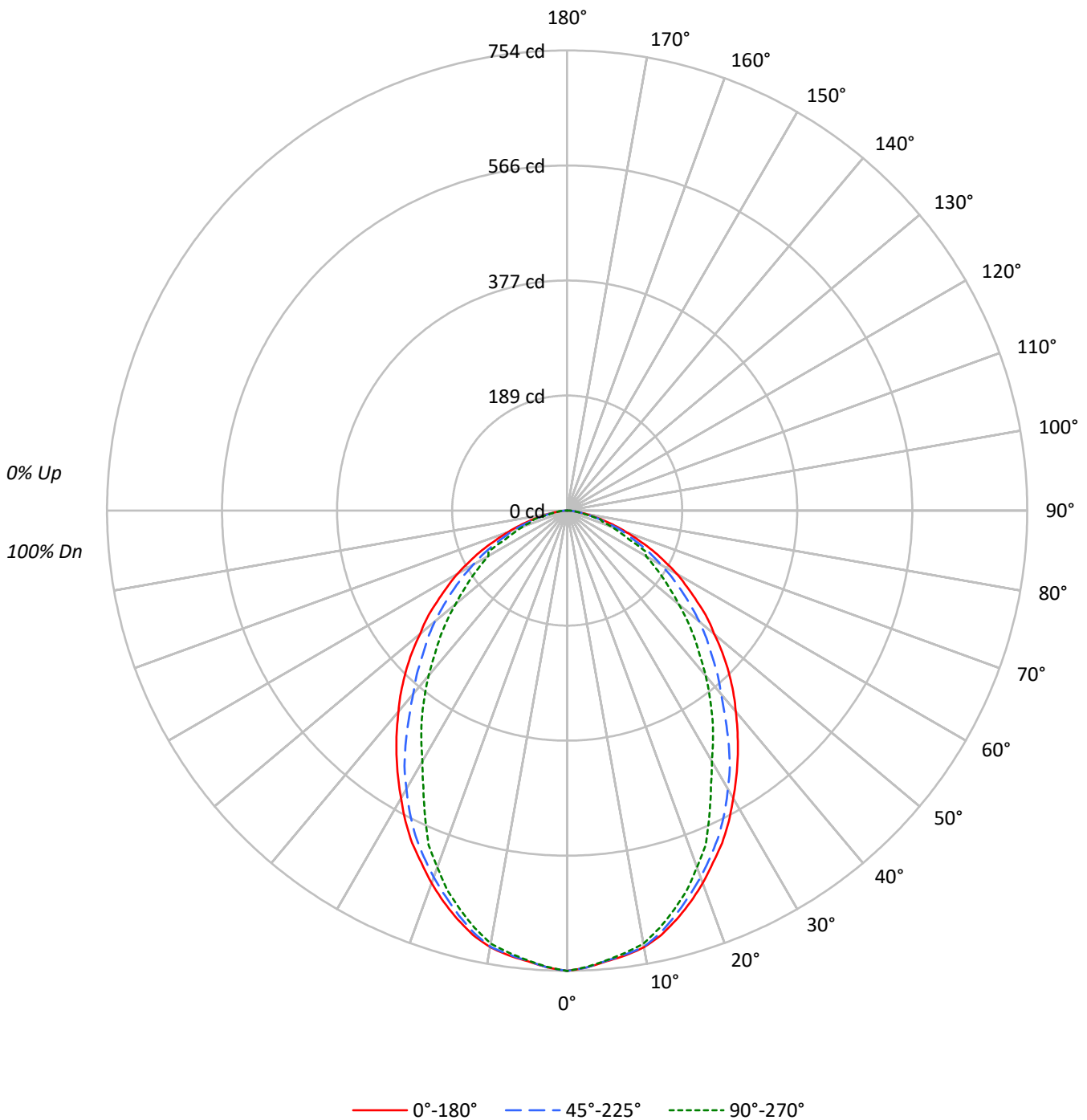
Lumens per Lamp: N/A  
Luminaire Lumens: 1481.0 lumens  
Efficiency: N/A  
Efficacy: 89.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4060	4060	4060
5°	4005	4000	3996
10°	3970	3965	3937
15°	3863	3824	3771
20°	3721	3662	3561
25°	3568	3491	3273
30°	3382	3274	2948
35°	3203	3026	2727
40°	3021	2758	2481
45°	2847	2549	2244
50°	2636	2366	2001
55°	2439	2144	1792
60°	2235	1915	1605
65°	1966	1677	1421
70°	1619	1468	1207
75°	1287	1125	1179
80°	865	812	756
85°	537	648	753

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2847 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.2	4.7
10°-20°	192.7	13.0
20°-30°	266.8	18.0
30°-40°	284.5	19.2
40°-50°	259.6	17.5
50°-60°	203.3	13.7
60°-70°	132.5	8.9
70°-80°	58.7	4.0
80°-90°	12.6	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°	529.8	35.8
0°-40°	814.3	55.0
0°-60°	1277.2	86.2
0°-90°	1481.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1481.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	754	754	754	754	754	
5°	741	740	740	740	740	70
15°	693	693	686	679	677	195
25°	601	597	588	567	551	276
35°	488	484	460	426	415	305
45°	374	366	335	307	295	288
55°	260	252	228	202	191	233
65°	154	146	132	134	112	152
75°	62	58	54	52	57	66
85°	9	10	10	11	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	754.4	754.4	754.4	754.4	754.4
2.5°	749.2	749.2	749.2	748.3	748.3
5°	741.3	740.4	740.4	739.6	739.6
7.5°	735.2	734.3	733.5	732.6	730.9
10°	726.5	726.5	725.6	721.3	720.4
12.5°	712.5	711.7	708.2	702.1	700.3
15°	693.4	693.4	686.4	679.4	676.8
17.5°	672.4	671.5	662.8	655.8	652.4
20°	649.7	648.0	639.3	627.9	621.8
22.5°	624.5	624.5	614.0	599.2	593.1
25°	600.9	597.4	587.8	566.9	551.2
27.5°	573.9	568.6	558.2	528.5	510.2
30°	544.2	541.6	526.8	488.4	474.4
32.5°	516.3	511.9	496.2	456.1	444.8
35°	487.5	484.0	460.5	425.6	415.1
37.5°	458.7	454.4	424.7	396.8	383.7
40°	430.0	424.7	392.5	367.2	353.2
42.5°	402.9	396.0	364.6	337.5	321.8
45°	374.1	366.3	334.9	307.0	294.8
47.5°	345.4	338.4	309.6	280.8	266.9
50°	314.8	308.7	282.6	253.8	239.0
52.5°	289.6	280.0	254.7	225.9	213.7
55°	259.9	252.0	228.5	201.5	191.0
57.5°	232.9	225.0	203.2	177.9	169.2
60°	207.6	196.2	177.9	156.1	149.1
62.5°	179.7	170.9	155.2	136.9	145.6
65°	154.4	145.6	131.7	134.3	111.6
67.5°	126.5	122.1	109.9	97.7	94.2
70°	102.9	97.7	93.3	80.2	76.7
72.5°	82.0	76.7	70.6	63.7	61.0
75°	61.9	57.6	54.1	51.5	56.7
77.5°	42.7	41.0	38.4	35.8	34.9
80°	27.9	27.0	26.2	25.3	24.4
82.5°	16.6	16.6	16.6	16.6	16.6
85°	8.7	9.6	10.5	11.3	12.2
87.5°	5.2	5.2	6.1	7.0	7.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)