

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: P559726

Luminaire Tested: FSR-12-2-LD4-1HI-40-UNV-93-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559726  
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-93-97-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

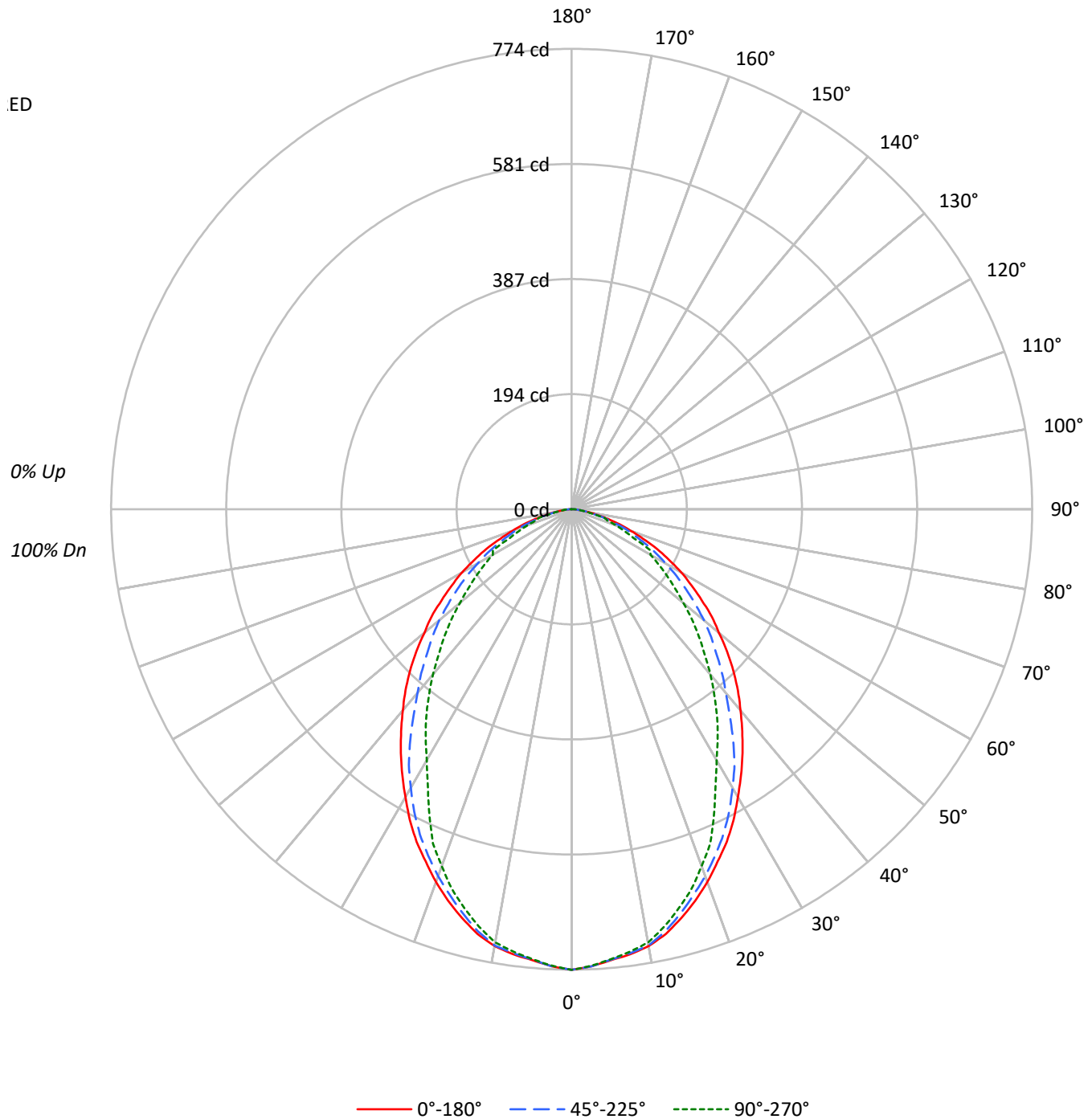
Lumens per Lamp: N/A  
Luminaire Lumens: 1520.0 lumens  
Efficiency: N/A  
Efficacy: 70.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4167	4167	4167
5°	4110	4105	4101
10°	4075	4070	4041
15°	3965	3925	3870
20°	3820	3758	3655
25°	3662	3583	3359
30°	3471	3360	3026
35°	3288	3105	2800
40°	3100	2830	2547
45°	2923	2616	2302
50°	2705	2428	2054
55°	2502	2200	1839
60°	2293	1965	1648
65°	2017	1722	1459
70°	1662	1507	1240
75°	1323	1154	1210
80°	886	834	778
85°	556	661	772

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2923 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.1	4.7
10°-20°	197.8	13.0
20°-30°	273.8	18.0
30°-40°	292.0	19.2
40°-50°	266.4	17.5
50°-60°	208.7	13.7
60°-70°	136.0	8.9
70°-80°	60.3	4.0
80°-90°	12.9	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°	543.7	35.8
0°-40°	835.7	55.0
0°-60°	1310.8	86.2
0°-90°	1520.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1520.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	774	774	774	774	774	
5°	761	760	760	759	759	72
15°	712	712	704	697	695	200
25°	617	613	603	582	566	283
35°	500	497	473	437	426	313
45°	384	376	344	315	302	296
55°	267	259	234	207	196	239
65°	158	150	135	138	115	156
75°	64	59	56	53	58	68
85°	9	10	11	12	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	774.3	774.3	774.3	774.3	774.3
2.5°	768.9	768.9	768.9	768.0	768.0
5°	760.8	759.9	759.9	759.1	759.1
7.5°	754.6	753.7	752.8	751.9	750.1
10°	745.6	745.6	744.7	740.3	739.4
12.5°	731.3	730.4	726.8	720.6	718.8
15°	711.6	711.6	704.4	697.3	694.6
17.5°	690.1	689.2	680.3	673.1	669.5
20°	666.9	665.1	656.1	644.5	638.2
22.5°	640.9	640.9	630.2	614.9	608.7
25°	616.7	613.1	603.3	581.8	565.7
27.5°	589.0	583.6	572.9	542.4	523.6
30°	558.5	555.9	540.6	501.3	486.9
32.5°	529.9	525.4	509.3	468.1	456.5
35°	500.4	496.8	472.6	436.8	426.1
37.5°	470.8	466.4	435.9	407.3	393.8
40°	441.3	435.9	402.8	376.8	362.5
42.5°	413.5	406.4	374.2	346.4	330.3
45°	384.0	375.9	343.7	315.1	302.5
47.5°	354.5	347.3	317.8	288.2	273.9
50°	323.1	316.9	290.0	260.5	245.3
52.5°	297.2	287.3	261.4	231.8	219.3
55°	266.7	258.7	234.5	206.8	196.0
57.5°	239.0	230.9	208.6	182.6	173.7
60°	213.0	201.4	182.6	160.2	153.1
62.5°	184.4	175.4	159.3	140.5	149.5
65°	158.4	149.5	135.2	137.8	114.6
67.5°	129.8	125.3	112.8	100.3	96.7
70°	105.6	100.3	95.8	82.3	78.8
72.5°	84.1	78.8	72.5	65.3	62.7
75°	63.6	59.1	55.5	52.8	58.2
77.5°	43.9	42.1	39.4	36.7	35.8
80°	28.6	27.7	26.9	26.0	25.1
82.5°	17.0	17.0	17.0	17.0	17.0
85°	9.0	9.8	10.7	11.6	12.5
87.5°	5.4	5.4	6.3	7.2	8.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)