

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: P560106

Luminaire Tested: FSR-12-2-LD4-1STD-40-UNV-93-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560106  
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-40-UNV-93-94-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

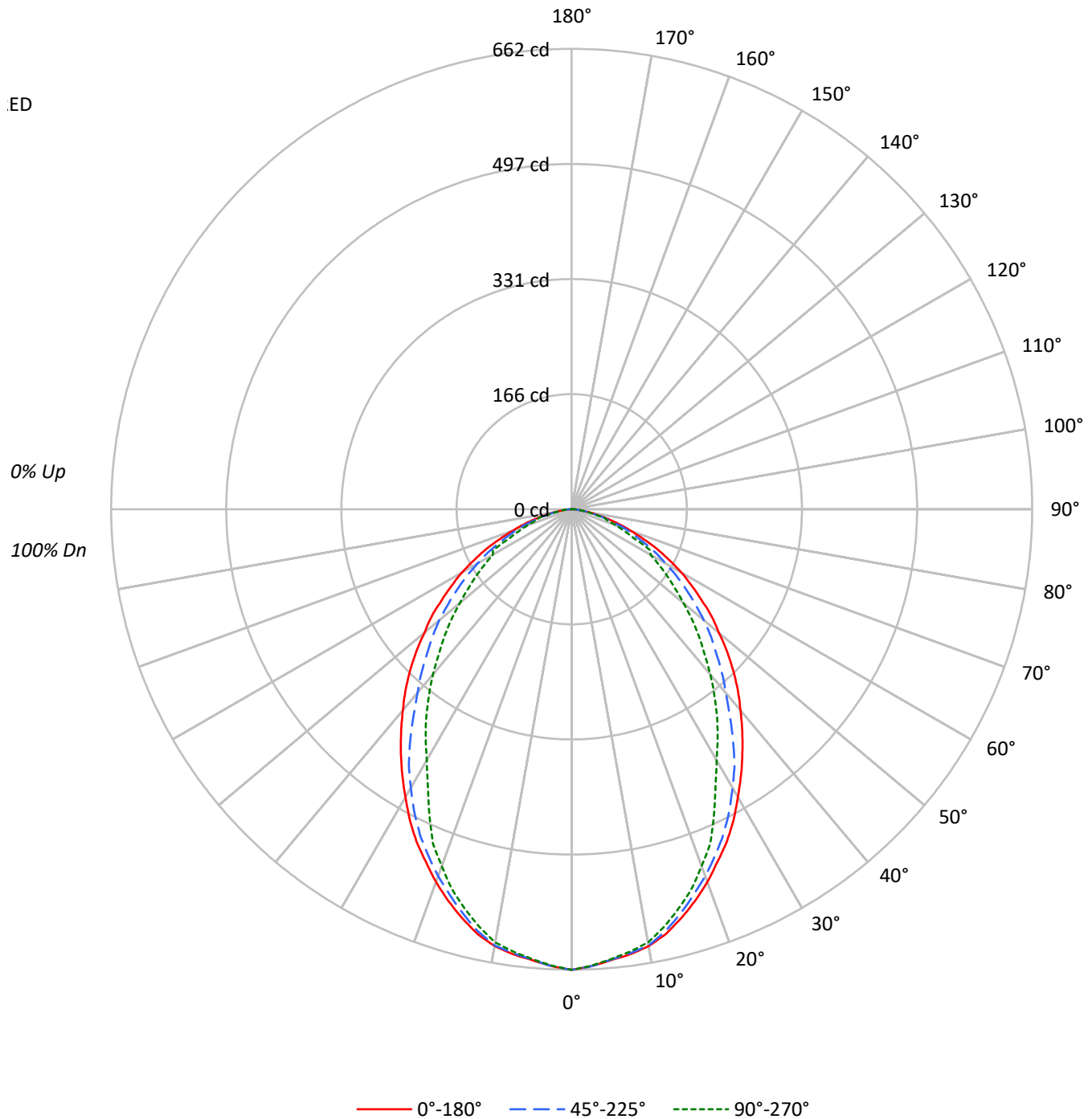
Lumens per Lamp: N/A  
Luminaire Lumens: 1300.0 lumens  
Efficiency: N/A  
Efficacy: 78.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



TEST NUMBER: P560106

CATALOG NUMBER: FSR-12-2-LD4-1STD-40-UNV-93-94-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P560106

CATALOG NUMBER: FSR-12-2-LD4-1STD-40-UNV-93-94-EDD-90

**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	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°	3564	3564	3564
5°	3515	3512	3507
10°	3485	3481	3456
15°	3391	3357	3310
20°	3266	3214	3126
25°	3132	3064	2873
30°	2969	2874	2588
35°	2811	2656	2394
40°	2651	2420	2178
45°	2500	2238	1970
50°	2314	2076	1757
55°	2140	1882	1574
60°	1961	1681	1409
65°	1726	1472	1248
70°	1421	1289	1061
75°	1131	988	1036
80°	759	713	663
85°	475	568	661

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2500 cd/sqm



TEST NUMBER: P560106

CATALOG NUMBER: FSR-12-2-LD4-1STD-40-UNV-93-94-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.6	4.7
10°-20°	169.2	13.0
20°-30°	234.2	18.0
30°-40°	249.7	19.2
40°-50°	227.8	17.5
50°-60°	178.5	13.7
60°-70°	116.3	8.9
70°-80°	51.5	4.0
80°-90°	11.1	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°	465.0	35.8
0°-40°	714.7	55.0
0°-60°	1121.1	86.2
0°-90°	1300.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1300.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	662	662	662	662	662	
5°	651	650	650	649	649	62
15°	609	609	602	596	594	171
25°	528	524	516	498	484	242
35°	428	425	404	374	364	268
45°	328	322	294	270	259	253
55°	228	221	201	177	168	205
65°	136	128	116	118	98	134
75°	54	50	48	45	50	58
85°	8	8	9	10	11	11
90°	0	0	0	0	0	



TEST NUMBER: P560106

CATALOG NUMBER: FSR-12-2-LD4-1STD-40-UNV-93-94-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	662.2	662.2	662.2	662.2	662.2
2.5°	657.6	657.6	657.6	656.8	656.8
5°	650.7	650.0	650.0	649.2	649.2
7.5°	645.4	644.6	643.8	643.1	641.5
10°	637.7	637.7	636.9	633.1	632.3
12.5°	625.5	624.7	621.6	616.3	614.7
15°	608.6	608.6	602.5	596.4	594.1
17.5°	590.2	589.5	581.8	575.7	572.6
20°	570.3	568.8	561.1	551.2	545.8
22.5°	548.1	548.1	538.9	525.9	520.6
25°	527.5	524.4	516.0	497.6	483.8
27.5°	503.7	499.1	490.0	463.9	447.8
30°	477.7	475.4	462.4	428.7	416.5
32.5°	453.2	449.4	435.6	400.4	390.4
35°	427.9	424.9	404.2	373.6	364.4
37.5°	402.7	398.9	372.8	348.3	336.8
40°	377.4	372.8	344.5	322.3	310.0
42.5°	353.7	347.6	320.0	296.3	282.5
45°	328.4	321.5	294.0	269.5	258.8
47.5°	303.2	297.0	271.8	246.5	234.3
50°	276.4	271.0	248.0	222.8	209.8
52.5°	254.2	245.7	223.5	198.3	187.6
55°	228.1	221.2	200.6	176.8	167.7
57.5°	204.4	197.5	178.4	156.2	148.5
60°	182.2	172.2	156.2	137.0	130.9
62.5°	157.7	150.0	136.3	120.2	127.8
65°	135.5	127.8	115.6	117.9	98.0
67.5°	111.0	107.2	96.5	85.7	82.7
70°	90.3	85.7	81.9	70.4	67.4
72.5°	72.0	67.4	62.0	55.9	53.6
75°	54.4	50.5	47.5	45.2	49.8
77.5°	37.5	36.0	33.7	31.4	30.6
80°	24.5	23.7	23.0	22.2	21.4
82.5°	14.5	14.5	14.5	14.5	14.5
85°	7.7	8.4	9.2	10.0	10.7
87.5°	4.6	4.6	5.4	6.1	6.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)