

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: P560614

Luminaire Tested: FSR-12-2-LD4-2STD-35-UNV-93-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560614  
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-LD4-2STD-35-UNV-93-87-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

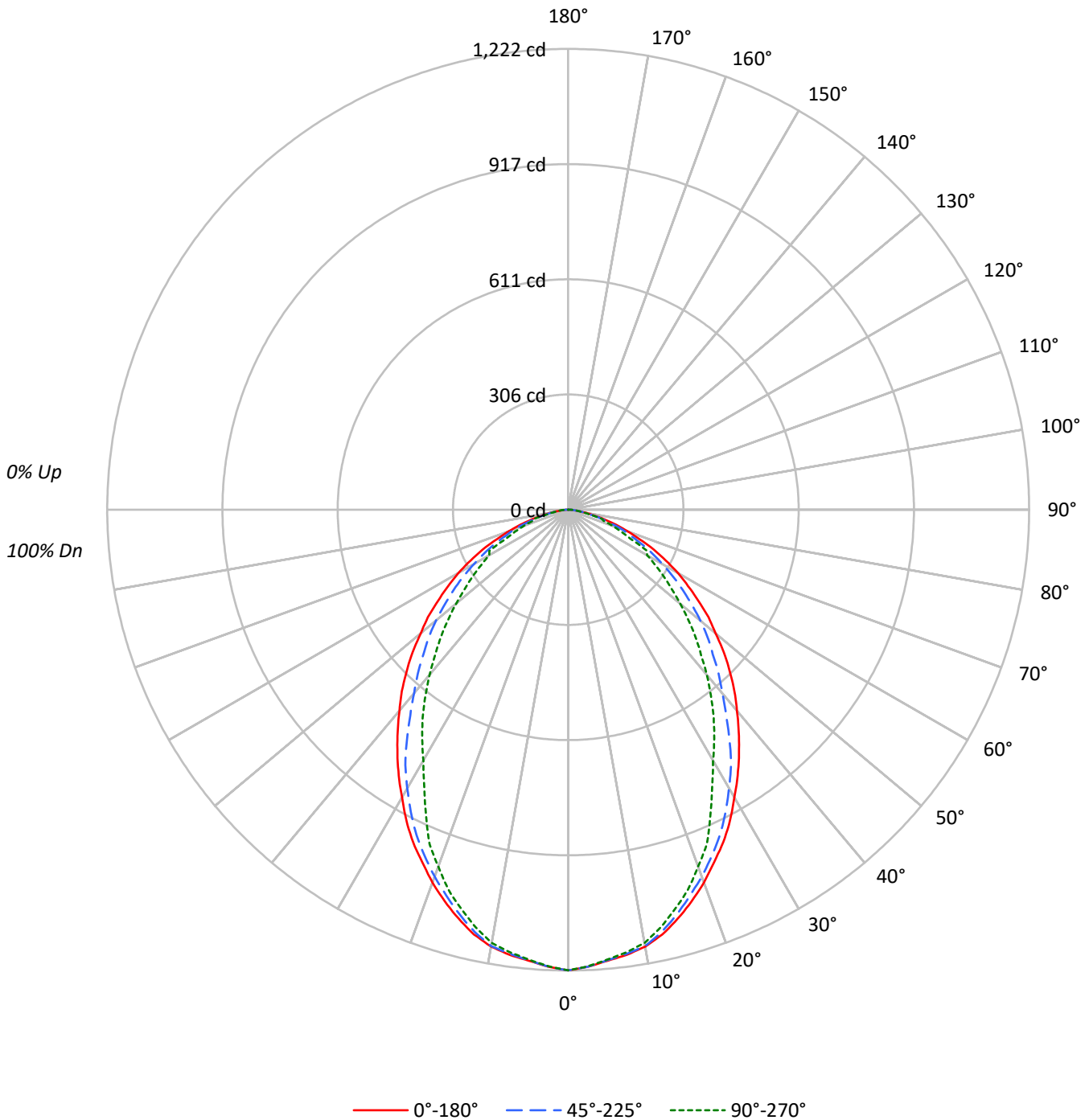
Lumens per Lamp: N/A  
Luminaire Lumens: 2398.0 lumens  
Efficiency: N/A  
Efficacy: 72.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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				
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°	6574	6574	6574
5°	6485	6477	6470
10°	6428	6421	6374
15°	6255	6193	6106
20°	6026	5928	5767
25°	5778	5652	5300
30°	5476	5300	4774
35°	5186	4899	4416
40°	4891	4465	4018
45°	4611	4128	3633
50°	4268	3831	3239
55°	3948	3472	2902
60°	3618	3101	2599
65°	3184	2715	2302
70°	2622	2378	1956
75°	2086	1822	1909
80°	1401	1314	1224
85°	871	1044	1223

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4611 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.7	4.7
10°-20°	312.1	13.0
20°-30°	432.0	18.0
30°-40°	460.7	19.2
40°-50°	420.3	17.5
50°-60°	329.2	13.7
60°-70°	214.6	8.9
70°-80°	95.1	4.0
80°-90°	20.4	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°	857.8	35.8
0°-40°	1318.4	55.0
0°-60°	2067.9	86.2
0°-90°	2398.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2398.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1222	1222	1222	1222	1222	
5°	1200	1199	1199	1198	1198	114
15°	1123	1123	1111	1100	1096	316
25°	973	967	952	918	892	447
35°	789	784	746	689	672	494
45°	606	593	542	497	477	467
55°	421	408	370	326	309	377
65°	250	236	213	218	181	246
75°	100	93	88	83	92	107
85°	14	16	17	18	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1221.5	1221.5	1221.5	1221.5	1221.5
2.5°	1213.0	1213.0	1213.0	1211.6	1211.6
5°	1200.3	1198.9	1198.9	1197.5	1197.5
7.5°	1190.4	1189.0	1187.6	1186.2	1183.4
10°	1176.3	1176.3	1174.9	1167.8	1166.4
12.5°	1153.7	1152.3	1146.7	1136.8	1134.0
15°	1122.7	1122.7	1111.4	1100.1	1095.8
17.5°	1088.8	1087.4	1073.2	1061.9	1056.3
20°	1052.1	1049.2	1035.1	1016.7	1006.9
22.5°	1011.1	1011.1	994.2	970.1	960.3
25°	973.0	967.3	951.8	917.9	892.5
27.5°	929.2	920.7	903.8	855.8	826.1
30°	881.2	876.9	852.9	790.8	768.2
32.5°	836.0	828.9	803.5	738.6	720.2
35°	789.4	783.7	745.6	689.1	672.2
37.5°	742.8	735.7	687.7	642.5	621.3
40°	696.2	687.7	635.5	594.5	571.9
42.5°	652.4	641.1	590.3	546.5	521.1
45°	605.8	593.1	542.3	497.1	477.3
47.5°	559.2	547.9	501.3	454.7	432.1
50°	509.8	499.9	457.5	410.9	386.9
52.5°	468.8	453.3	412.3	365.7	346.0
55°	420.8	408.1	370.0	326.2	309.3
57.5°	377.0	364.3	329.0	288.1	274.0
60°	336.1	317.7	288.1	252.8	241.5
62.5°	290.9	276.8	251.4	221.7	235.8
65°	250.0	235.8	213.2	217.5	180.8
67.5°	204.8	197.7	177.9	158.2	152.5
70°	166.6	158.2	151.1	129.9	124.3
72.5°	132.7	124.3	114.4	103.1	98.9
75°	100.3	93.2	87.6	83.3	91.8
77.5°	69.2	66.4	62.1	57.9	56.5
80°	45.2	43.8	42.4	41.0	39.5
82.5°	26.8	26.8	26.8	26.8	26.8
85°	14.1	15.5	16.9	18.4	19.8
87.5°	8.5	8.5	9.9	11.3	12.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)