

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: P560288

Luminaire Tested: FSR-12-2-LD4-2HI-40-UNV-93-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560288  
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-93-84-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

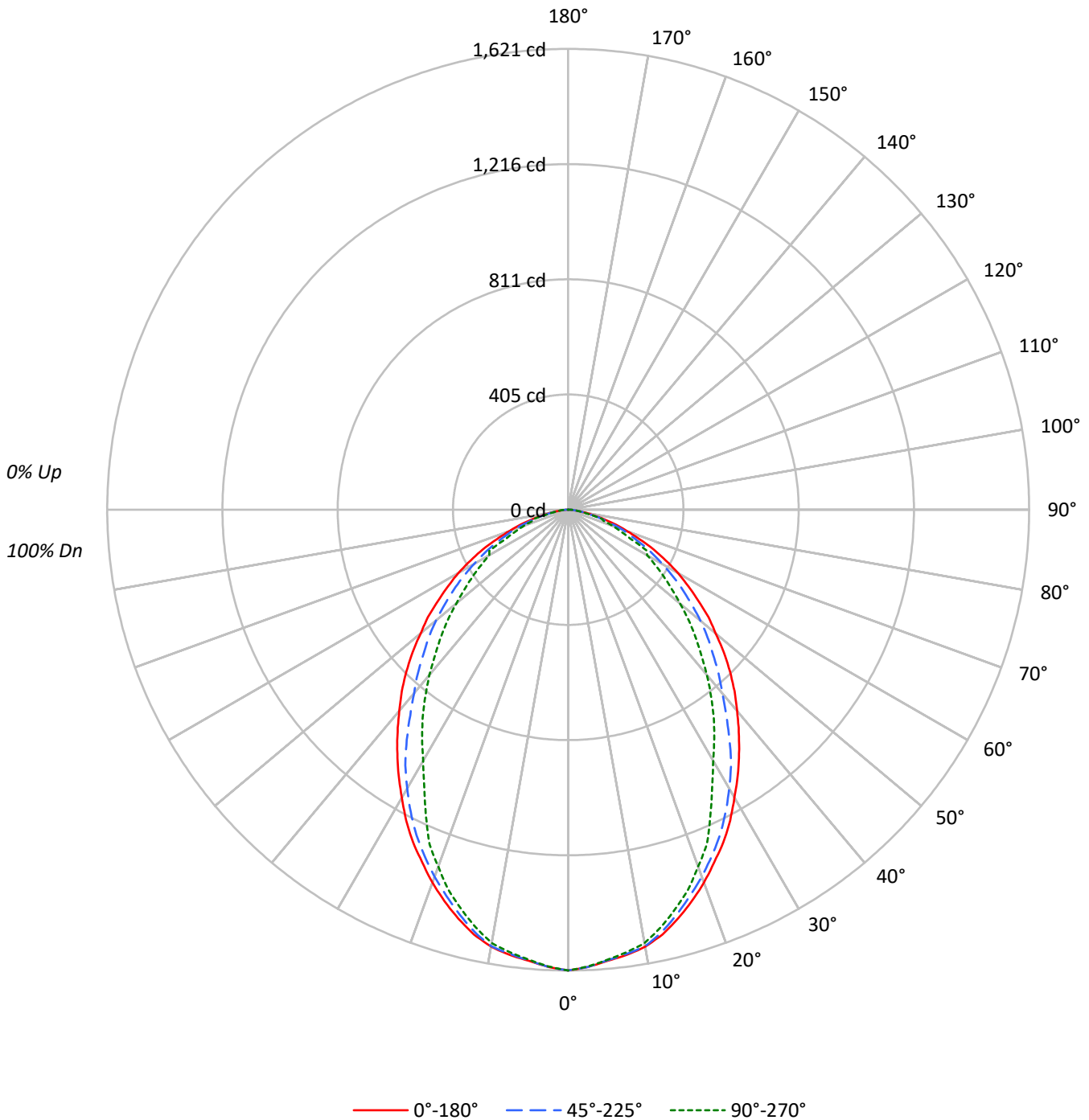
Lumens per Lamp: N/A  
Luminaire Lumens: 3182.0 lumens  
Efficiency: N/A  
Efficacy: 73.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	8724	8724	8724
5°	8605	8595	8585
10°	8530	8520	8459
15°	8300	8217	8102
20°	7995	7867	7652
25°	7667	7500	7033
30°	7267	7034	6335
35°	6882	6501	5860
40°	6490	5924	5332
45°	6119	5477	4821
50°	5664	5083	4299
55°	5240	4606	3851
60°	4801	4115	3449
65°	4224	3603	3055
70°	3479	3155	2595
75°	2766	2416	2533
80°	1860	1742	1627
85°	1155	1389	1618

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6119 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.9	4.7
10°-20°	414.1	13.0
20°-30°	573.3	18.0
30°-40°	611.3	19.2
40°-50°	557.7	17.5
50°-60°	436.9	13.7
60°-70°	284.7	8.9
70°-80°	126.2	4.0
80°-90°	27.1	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°	1138.2	35.8
0°-40°	1749.5	55.0
0°-60°	2744.0	86.2
0°-90°	3182.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3182.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1621	1621	1621	1621	1621	
5°	1593	1591	1591	1589	1589	151
15°	1490	1490	1475	1460	1454	419
25°	1291	1284	1263	1218	1184	593
35°	1048	1040	989	914	892	655
45°	804	787	720	660	633	619
55°	558	542	491	433	410	501
65°	332	313	283	289	240	327
75°	133	124	116	111	122	143
85°	19	21	22	24	26	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1620.9	1620.9	1620.9	1620.9	1620.9
2.5°	1609.6	1609.6	1609.6	1607.8	1607.8
5°	1592.8	1590.9	1590.9	1589.0	1589.0
7.5°	1579.6	1577.8	1575.9	1574.0	1570.3
10°	1560.9	1560.9	1559.0	1549.7	1547.8
12.5°	1530.9	1529.1	1521.6	1508.4	1504.7
15°	1489.7	1489.7	1474.7	1459.7	1454.1
17.5°	1444.7	1442.9	1424.1	1409.1	1401.6
20°	1396.0	1392.3	1373.5	1349.2	1336.0
22.5°	1341.7	1341.7	1319.2	1287.3	1274.2
25°	1291.1	1283.6	1263.0	1218.0	1184.3
27.5°	1233.0	1221.7	1199.3	1135.5	1096.2
30°	1169.3	1163.7	1131.8	1049.3	1019.4
32.5°	1109.3	1099.9	1066.2	980.0	955.7
35°	1047.5	1040.0	989.4	914.4	891.9
37.5°	985.6	976.3	912.6	852.6	824.5
40°	923.8	912.6	843.2	788.9	758.9
42.5°	865.7	850.7	783.3	725.2	691.4
45°	803.9	787.0	719.6	659.6	633.4
47.5°	742.0	727.0	665.2	603.4	573.4
50°	676.5	663.3	607.1	545.3	513.4
52.5°	622.1	601.5	547.2	485.3	459.1
55°	558.4	541.5	490.9	432.9	410.4
57.5°	500.3	483.4	436.6	382.3	363.5
60°	446.0	421.6	382.3	335.4	320.4
62.5°	386.0	367.3	333.5	294.2	312.9
65°	331.7	312.9	282.9	288.6	239.9
67.5°	271.7	262.3	236.1	209.9	202.4
70°	221.1	209.9	200.5	172.4	164.9
72.5°	176.1	164.9	151.8	136.8	131.2
75°	133.0	123.7	116.2	110.6	121.8
77.5°	91.8	88.1	82.4	76.8	75.0
80°	60.0	58.1	56.2	54.3	52.5
82.5°	35.6	35.6	35.6	35.6	35.6
85°	18.7	20.6	22.5	24.4	26.2
87.5°	11.2	11.2	13.1	15.0	16.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)