

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: P560300

Luminaire Tested: FSR-12-2-LD4-2HI-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560300  
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-93-96-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

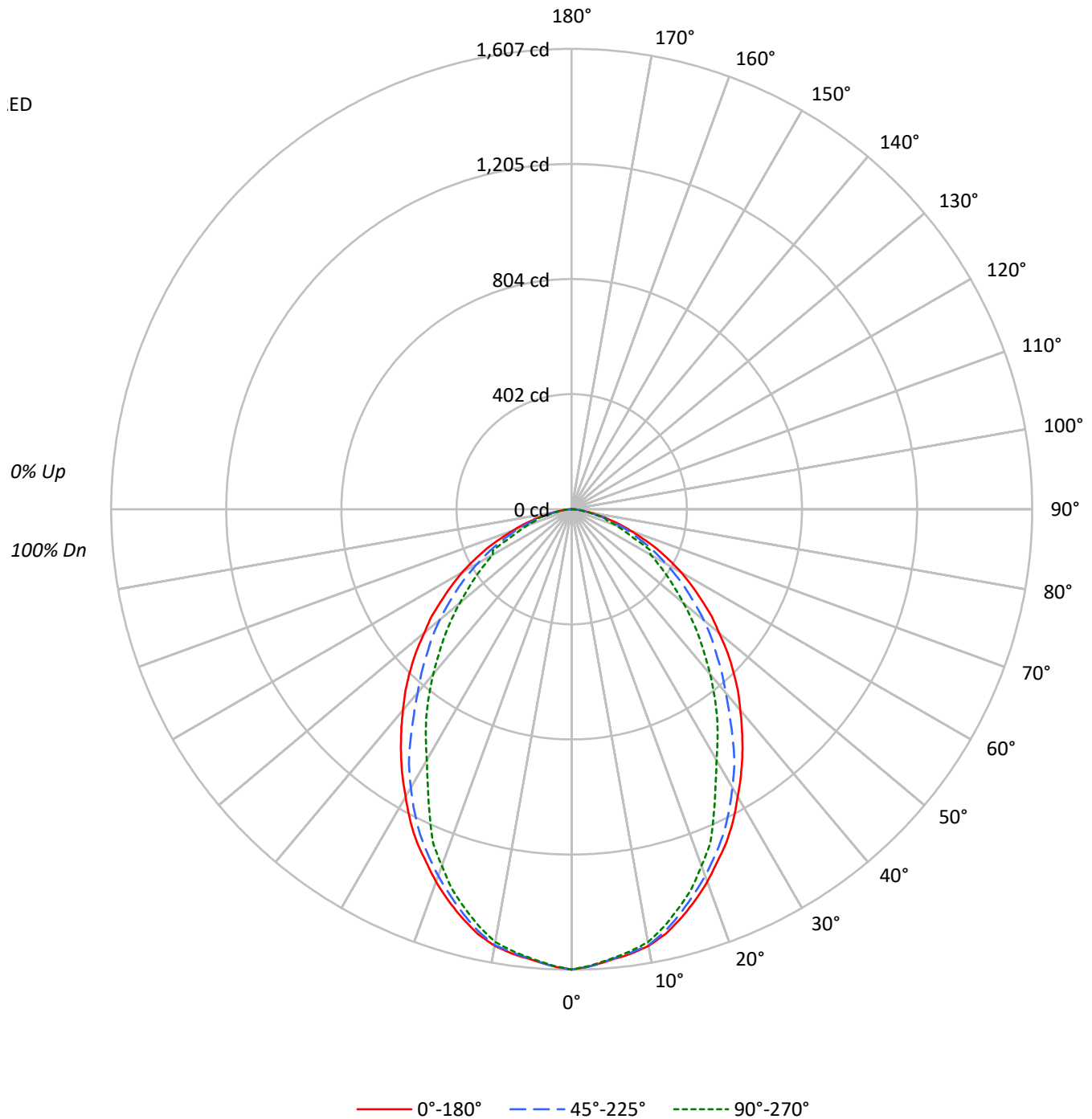
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3154.0 lumens  
Efficiency: N/A  
Efficacy: 73.0 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): 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	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°	8647	8647	8647
5°	8529	8519	8509
10°	8455	8445	8384
15°	8227	8144	8031
20°	7925	7797	7585
25°	7599	7434	6970
30°	7203	6971	6279
35°	6822	6443	5809
40°	6433	5872	5285
45°	6065	5428	4778
50°	5614	5039	4261
55°	5194	4566	3817
60°	4758	4078	3419
65°	4187	3572	3027
70°	3449	3127	2571
75°	2743	2396	2510
80°	1841	1726	1612
85°	1149	1377	1606

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6065 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.6	4.7
10°-20°	410.4	13.0
20°-30°	568.2	18.0
30°-40°	605.9	19.2
40°-50°	552.8	17.5
50°-60°	433.0	13.7
60°-70°	282.2	8.9
70°-80°	125.0	4.0
80°-90°	26.8	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°	1128.2	35.8
0°-40°	1734.1	55.0
0°-60°	2719.9	86.2
0°-90°	3154.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3154.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1607	1607	1607	1607	1607	
5°	1579	1577	1577	1575	1575	150
15°	1477	1477	1462	1447	1441	415
25°	1280	1272	1252	1207	1174	588
35°	1038	1031	981	906	884	649
45°	797	780	713	654	628	614
55°	554	537	487	429	407	496
65°	329	310	280	286	238	324
75°	132	123	115	110	121	141
85°	19	20	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°	1606.6	1606.6	1606.6	1606.6	1606.6
2.5°	1595.5	1595.5	1595.5	1593.6	1593.6
5°	1578.7	1576.9	1576.9	1575.0	1575.0
7.5°	1565.7	1563.9	1562.0	1560.2	1556.5
10°	1547.2	1547.2	1545.3	1536.0	1534.2
12.5°	1517.5	1515.6	1508.2	1495.2	1491.4
15°	1476.6	1476.6	1461.7	1446.9	1441.3
17.5°	1432.0	1430.2	1411.6	1396.7	1389.3
20°	1383.7	1380.0	1361.4	1337.3	1324.3
22.5°	1329.9	1329.9	1307.6	1276.0	1263.0
25°	1279.7	1272.3	1251.9	1207.3	1173.8
27.5°	1222.1	1211.0	1188.7	1125.6	1086.5
30°	1159.0	1153.4	1121.8	1040.1	1010.4
32.5°	1099.5	1090.3	1056.8	971.4	947.2
35°	1038.3	1030.8	980.7	906.4	884.1
37.5°	977.0	967.7	904.5	845.1	817.2
40°	915.7	904.5	835.8	781.9	752.2
42.5°	858.1	843.2	776.4	718.8	685.4
45°	796.8	780.1	713.2	653.8	627.8
47.5°	735.5	720.7	659.4	598.1	568.3
50°	670.5	657.5	601.8	540.5	508.9
52.5°	616.6	596.2	542.3	481.1	455.1
55°	553.5	536.8	486.6	429.0	406.8
57.5°	495.9	479.2	432.8	378.9	360.3
60°	442.0	417.9	378.9	332.5	317.6
62.5°	382.6	364.0	330.6	291.6	310.2
65°	328.8	310.2	280.5	286.0	237.7
67.5°	269.3	260.0	234.0	208.0	200.6
70°	219.2	208.0	198.7	170.9	163.4
72.5°	174.6	163.4	150.4	135.6	130.0
75°	131.9	122.6	115.2	109.6	120.7
77.5°	91.0	87.3	81.7	76.2	74.3
80°	59.4	57.6	55.7	53.9	52.0
82.5°	35.3	35.3	35.3	35.3	35.3
85°	18.6	20.4	22.3	24.1	26.0
87.5°	11.1	11.1	13.0	14.9	16.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)