

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: P559183

Luminaire Tested: FSR-12-1-LD4-2HI-50-UNV-81-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559183  
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-12-1-LD4-2HI-50-UNV-81-97-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

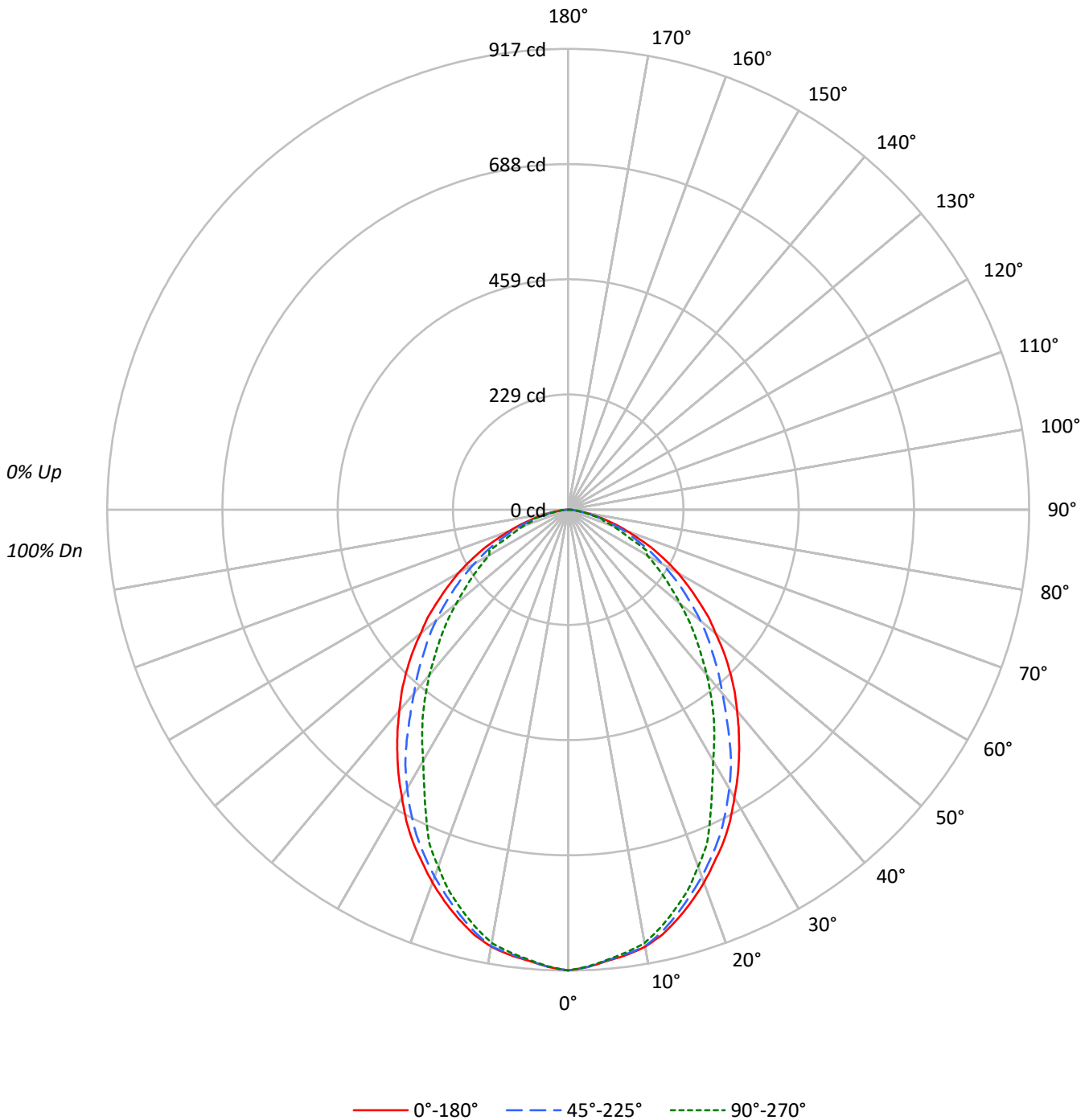
Lumens per Lamp: N/A  
Luminaire Lumens: 1800.0 lumens  
Efficiency: N/A  
Efficacy: 83.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																		
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°	9869	9869	9869
5°	9735	9723	9713
10°	9651	9639	9570
15°	9391	9296	9167
20°	9046	8900	8657
25°	8674	8485	7956
30°	8221	7957	7167
35°	7786	7355	6631
40°	7343	6702	6032
45°	6922	6196	5454
50°	6409	5750	4863
55°	5928	5211	4356
60°	5431	4654	3903
65°	4778	4078	3456
70°	3937	3569	2936
75°	3132	2732	2865
80°	2101	1971	1841
85°	1309	1568	1828

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6922 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.4	4.7
10°-20°	234.2	13.0
20°-30°	324.3	18.0
30°-40°	345.8	19.2
40°-50°	315.5	17.5
50°-60°	247.1	13.7
60°-70°	161.1	8.9
70°-80°	71.4	4.0
80°-90°	15.3	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°	643.9	35.8
0°-40°	989.7	55.0
0°-60°	1552.2	86.2
0°-90°	1800.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1800.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	917	917	917	917	917	
5°	901	900	900	899	899	86
15°	843	843	834	826	823	237
25°	730	726	714	689	670	335
35°	592	588	560	517	505	370
45°	455	445	407	373	358	350
55°	316	306	278	245	232	283
65°	188	177	160	163	136	185
75°	75	70	66	62	69	81
85°	11	12	13	14	15	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	916.9	916.9	916.9	916.9	916.9
2.5°	910.5	910.5	910.5	909.5	909.5
5°	901.0	899.9	899.9	898.9	898.9
7.5°	893.6	892.5	891.5	890.4	888.3
10°	883.0	883.0	881.9	876.6	875.6
12.5°	866.0	865.0	860.7	853.3	851.2
15°	842.7	842.7	834.2	825.7	822.6
17.5°	817.3	816.2	805.6	797.1	792.9
20°	789.7	787.6	777.0	763.2	755.8
22.5°	759.0	759.0	746.2	728.2	720.8
25°	730.3	726.1	714.4	689.0	669.9
27.5°	697.5	691.1	678.4	642.4	620.1
30°	661.4	658.3	640.2	593.6	576.6
32.5°	627.5	622.2	603.1	554.4	540.6
35°	592.5	588.3	559.7	517.3	504.6
37.5°	557.6	552.3	516.2	482.3	466.4
40°	522.6	516.2	477.0	446.3	429.3
42.5°	489.7	481.2	443.1	410.2	391.1
45°	454.7	445.2	407.0	373.1	358.3
47.5°	419.8	411.3	376.3	341.3	324.4
50°	382.7	375.2	343.4	308.5	290.4
52.5°	351.9	340.3	309.5	274.5	259.7
55°	315.9	306.3	277.7	244.9	232.1
57.5°	283.0	273.5	247.0	216.2	205.6
60°	252.3	238.5	216.2	189.7	181.3
62.5°	218.4	207.8	188.7	166.4	177.0
65°	187.6	177.0	160.1	163.2	135.7
67.5°	153.7	148.4	133.6	118.7	114.5
70°	125.1	118.7	113.4	97.5	93.3
72.5°	99.6	93.3	85.9	77.4	74.2
75°	75.3	70.0	65.7	62.5	68.9
77.5°	51.9	49.8	46.6	43.5	42.4
80°	33.9	32.9	31.8	30.7	29.7
82.5°	20.1	20.1	20.1	20.1	20.1
85°	10.6	11.7	12.7	13.8	14.8
87.5°	6.4	6.4	7.4	8.5	9.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)