

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: P561316

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561316
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-12-4-LD4-1STD-50-UNV-93-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2882.0 lumens
Efficiency: N/A
Efficacy: 86.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

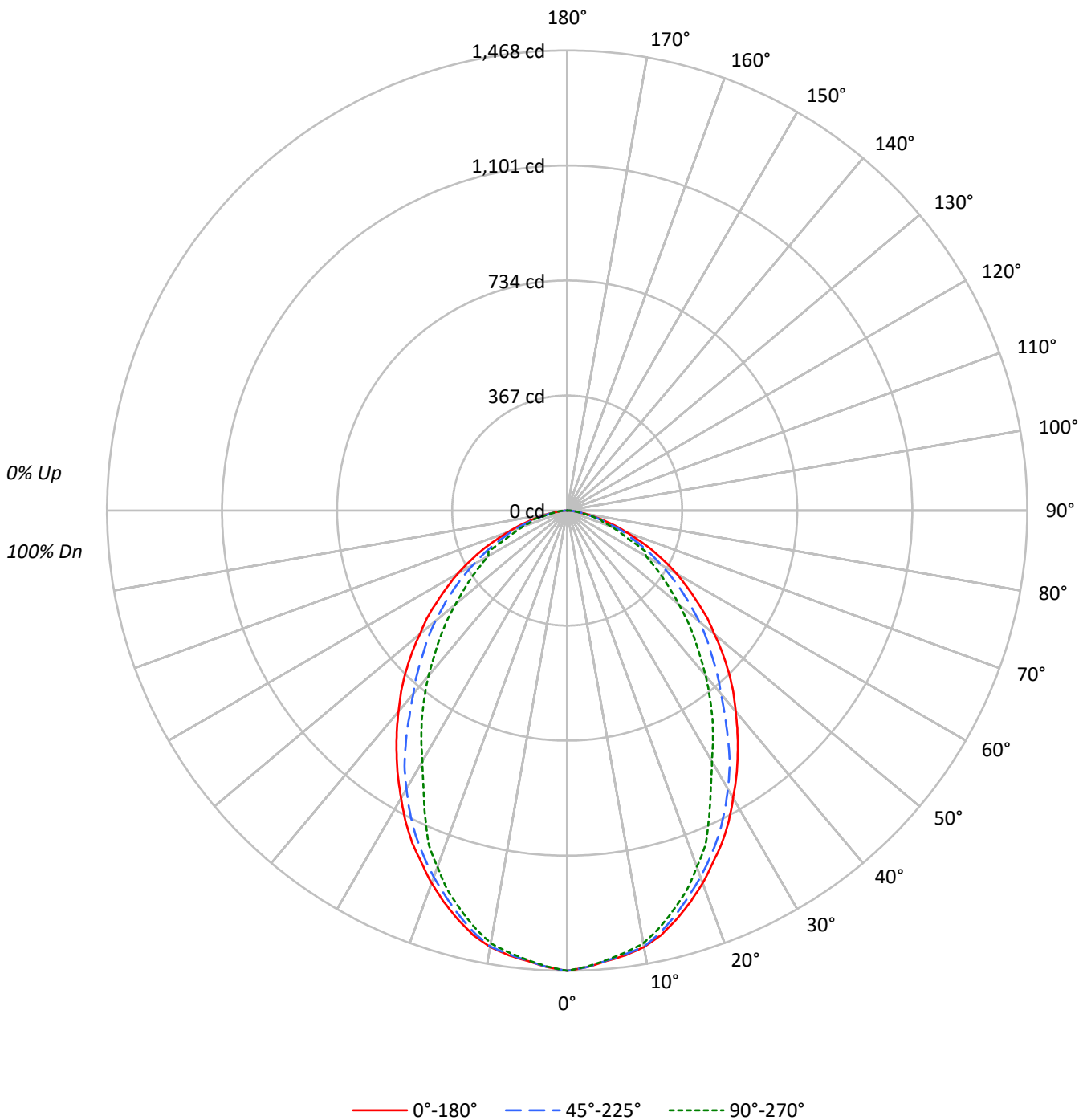
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	3951	3951	3951
5°	3897	3892	3888
10°	3863	3858	3831
15°	3759	3721	3669
20°	3621	3562	3465
25°	3472	3396	3185
30°	3291	3185	2869
35°	3117	2944	2654
40°	2939	2683	2415
45°	2771	2480	2183
50°	2565	2302	1947
55°	2373	2086	1744
60°	2174	1863	1562
65°	1913	1632	1383
70°	1576	1429	1175
75°	1253	1094	1147
80°	841	789	736
85°	525	630	735

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2771 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.7	4.7
10°-20°	375.0	13.0
20°-30°	519.2	18.0
30°-40°	553.6	19.2
40°-50°	505.1	17.5
50°-60°	395.7	13.7
60°-70°	257.9	8.9
70°-80°	114.3	4.0
80°-90°	24.5	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°	1030.9	35.8
0°-40°	1584.6	55.0
0°-60°	2485.3	86.2
0°-90°	2882.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2882.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1468	1468	1468	1468	1468	
5°	1443	1441	1441	1439	1439	137
15°	1349	1349	1336	1322	1317	379
25°	1169	1163	1144	1103	1073	537
35°	949	942	896	828	808	593
45°	728	713	652	597	574	561
55°	506	490	445	392	372	454
65°	300	283	256	261	217	296
75°	120	112	105	100	110	129
85°	17	19	20	22	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1468.1	1468.1	1468.1	1468.1	1468.1
2.5°	1457.9	1457.9	1457.9	1456.2	1456.2
5°	1442.6	1440.9	1440.9	1439.2	1439.2
7.5°	1430.7	1429.0	1427.3	1425.6	1422.2
10°	1413.7	1413.7	1412.0	1403.6	1401.9
12.5°	1386.6	1384.9	1378.1	1366.2	1362.8
15°	1349.3	1349.3	1335.7	1322.1	1317.0
17.5°	1308.5	1306.8	1289.8	1276.3	1269.5
20°	1264.4	1261.0	1244.0	1222.0	1210.1
22.5°	1215.2	1215.2	1194.8	1166.0	1154.1
25°	1169.4	1162.6	1143.9	1103.2	1072.6
27.5°	1116.7	1106.6	1086.2	1028.5	992.8
30°	1059.0	1053.9	1025.1	950.4	923.3
32.5°	1004.7	996.2	965.7	887.6	865.6
35°	948.7	941.9	896.1	828.2	807.9
37.5°	892.7	884.2	826.5	772.2	746.8
40°	836.7	826.5	763.7	714.5	687.4
42.5°	784.1	770.5	709.4	656.8	626.3
45°	728.1	712.8	651.7	597.4	573.6
47.5°	672.1	658.5	602.5	546.5	519.3
50°	612.7	600.8	549.9	493.9	465.0
52.5°	563.5	544.8	495.6	439.6	415.8
55°	505.8	490.5	444.7	392.0	371.7
57.5°	453.1	437.9	395.4	346.2	329.3
60°	403.9	381.9	346.2	303.8	290.2
62.5°	349.6	332.6	302.1	266.5	283.4
65°	300.4	283.4	256.3	261.4	217.2
67.5°	246.1	237.6	213.8	190.1	183.3
70°	200.3	190.1	181.6	156.1	149.4
72.5°	159.5	149.4	137.5	123.9	118.8
75°	120.5	112.0	105.2	100.1	110.3
77.5°	83.2	79.8	74.7	69.6	67.9
80°	54.3	52.6	50.9	49.2	47.5
82.5°	32.2	32.2	32.2	32.2	32.2
85°	17.0	18.7	20.4	22.1	23.8
87.5°	10.2	10.2	11.9	13.6	15.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)