

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: P561174

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561174
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-35-UNV-82-87-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2423.0 lumens
Efficiency: N/A
Efficacy: 72.8 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

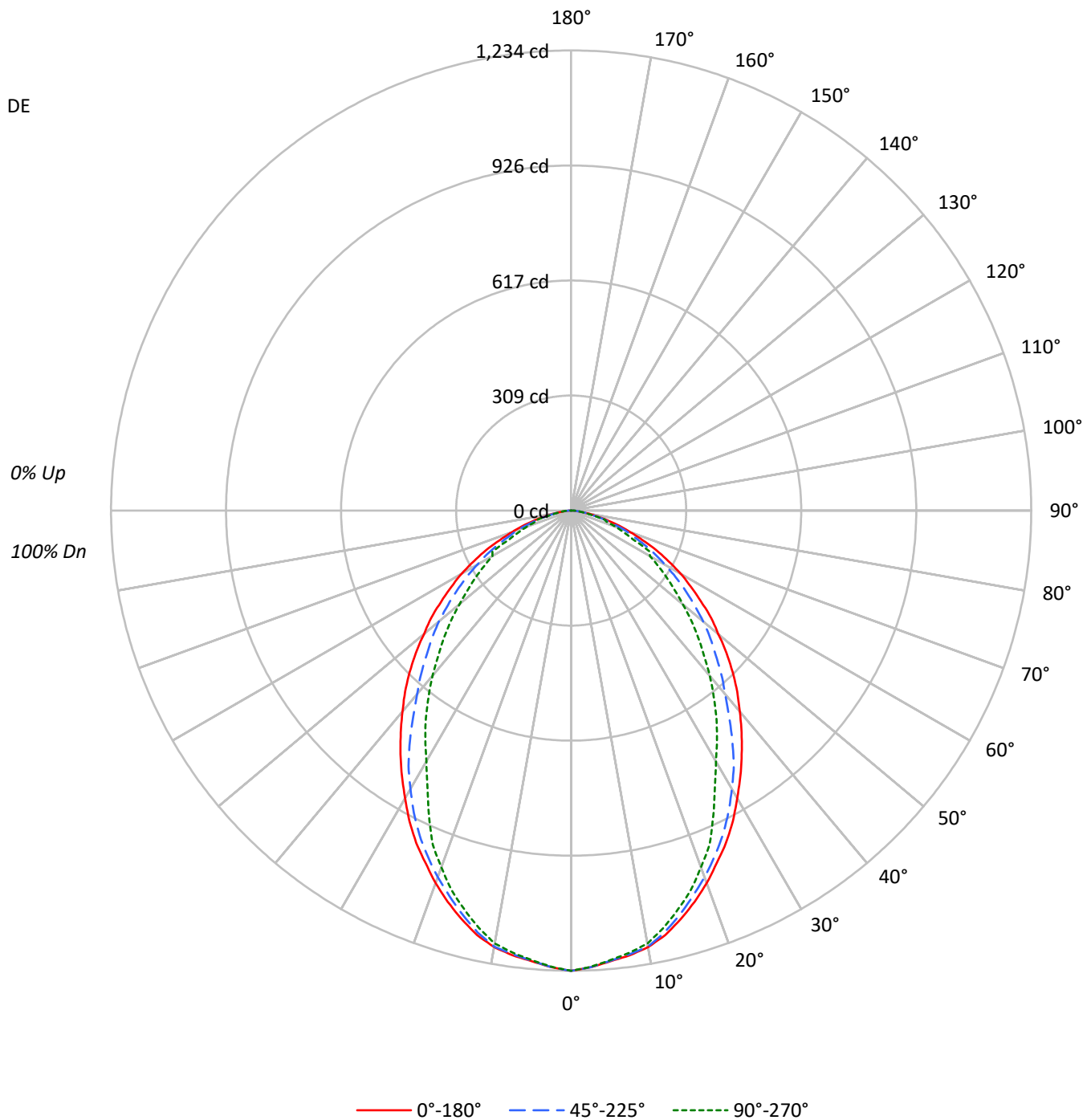
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3321	3321	3321
5°	3276	3272	3269
10°	3248	3244	3221
15°	3160	3128	3085
20°	3044	2995	2914
25°	2919	2855	2678
30°	2767	2678	2412
35°	2620	2475	2231
40°	2471	2256	2030
45°	2329	2085	1835
50°	2156	1935	1637
55°	1995	1754	1466
60°	1828	1567	1313
65°	1608	1372	1163
70°	1325	1201	988
75°	1053	920	964
80°	708	663	620
85°	442	528	618

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2329 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.9	4.7
10°-20°	315.3	13.0
20°-30°	436.5	18.0
30°-40°	465.5	19.2
40°-50°	424.6	17.5
50°-60°	332.7	13.7
60°-70°	216.8	8.9
70°-80°	96.1	4.0
80°-90°	20.6	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°	866.7	35.8
0°-40°	1332.2	55.0
0°-60°	2089.5	86.2
0°-90°	2423.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2423.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1234	1234	1234	1234	1234	
5°	1213	1211	1211	1210	1210	115
15°	1134	1134	1123	1112	1107	319
25°	983	977	962	928	902	451
35°	798	792	753	696	679	499
45°	612	599	548	502	482	471
55°	425	412	374	330	312	381
65°	253	238	216	220	183	249
75°	101	94	88	84	93	109
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°	1234.2	1234.2	1234.2	1234.2	1234.2
2.5°	1225.7	1225.7	1225.7	1224.3	1224.3
5°	1212.8	1211.4	1211.4	1210.0	1210.0
7.5°	1202.9	1201.4	1200.0	1198.6	1195.7
10°	1188.6	1188.6	1187.2	1180.0	1178.6
12.5°	1165.8	1164.3	1158.6	1148.6	1145.8
15°	1134.4	1134.4	1122.9	1111.5	1107.3
17.5°	1100.1	1098.7	1084.4	1073.0	1067.3
20°	1063.0	1060.2	1045.9	1027.3	1017.4
22.5°	1021.6	1021.6	1004.5	980.3	970.3
25°	983.1	977.4	961.7	927.5	901.8
27.5°	938.9	930.3	913.2	864.7	834.7
30°	890.4	886.1	861.8	799.0	776.2
32.5°	844.7	837.6	811.9	746.3	727.7
35°	797.6	791.9	753.4	696.3	679.2
37.5°	750.5	743.4	694.9	649.2	627.8
40°	703.4	694.9	642.1	600.7	577.9
42.5°	659.2	647.8	596.4	552.2	526.5
45°	612.1	599.3	547.9	502.3	482.3
47.5°	565.0	553.6	506.5	459.5	436.6
50°	515.1	505.1	462.3	415.2	391.0
52.5°	473.7	458.0	416.6	369.6	349.6
55°	425.2	412.4	373.8	329.6	312.5
57.5°	381.0	368.1	332.5	291.1	276.8
60°	339.6	321.0	291.1	255.4	244.0
62.5°	293.9	279.7	254.0	224.0	238.3
65°	252.6	238.3	215.5	219.7	182.6
67.5°	206.9	199.8	179.8	159.8	154.1
70°	168.4	159.8	152.7	131.3	125.6
72.5°	134.1	125.6	115.6	104.2	99.9
75°	101.3	94.2	88.5	84.2	92.7
77.5°	69.9	67.1	62.8	58.5	57.1
80°	45.7	44.2	42.8	41.4	40.0
82.5°	27.1	27.1	27.1	27.1	27.1
85°	14.3	15.7	17.1	18.5	20.0
87.5°	8.6	8.6	10.0	11.4	12.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)