

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: P561236

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561236
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-40-UNV-82-86-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2540.0 lumens
Efficiency: N/A
Efficacy: 76.3 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

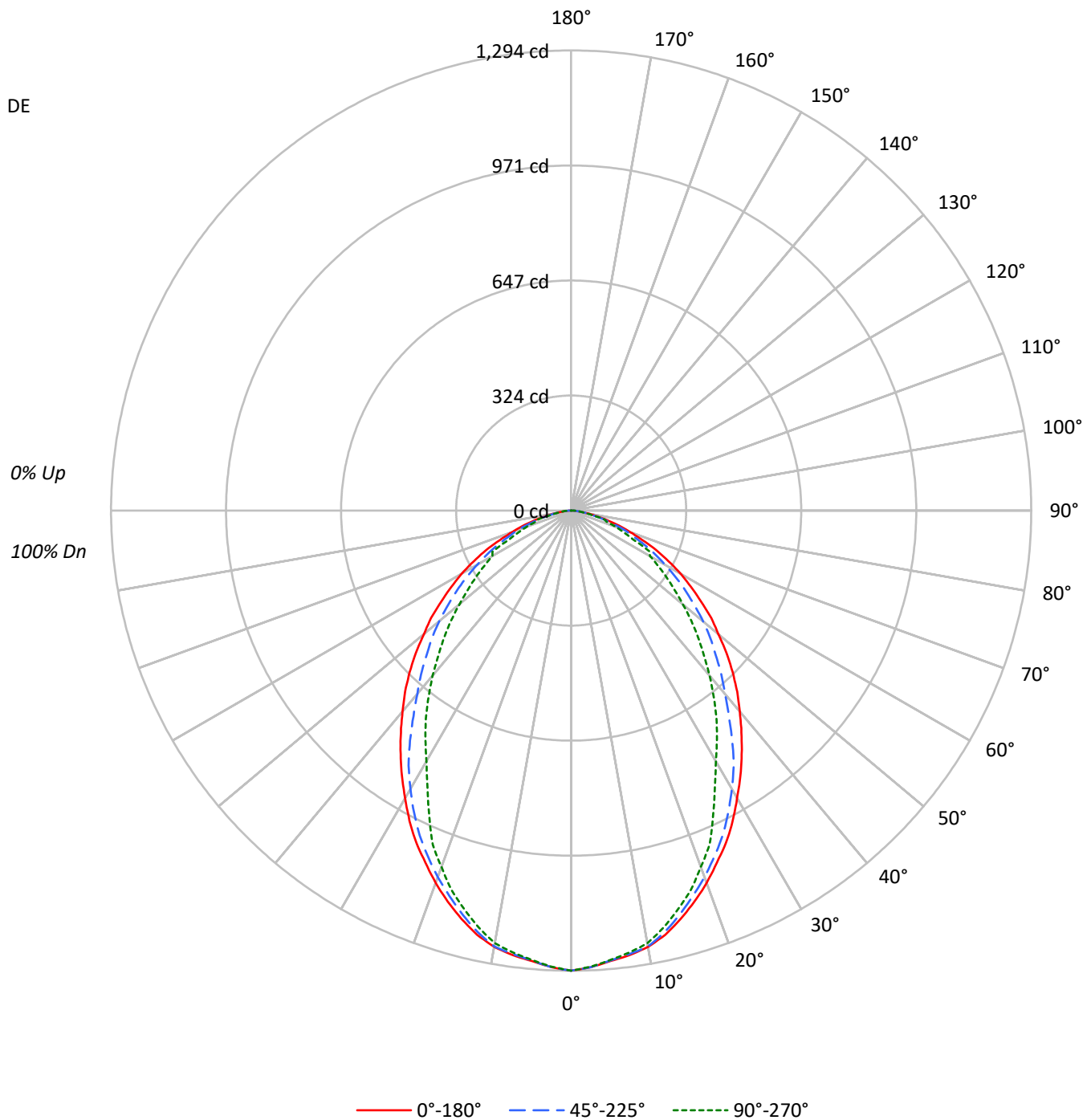
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3482	3482	3482
5°	3434	3430	3426
10°	3405	3401	3376
15°	3313	3280	3234
20°	3191	3140	3054
25°	3060	2993	2807
30°	2900	2807	2528
35°	2747	2595	2339
40°	2590	2364	2128
45°	2442	2186	1924
50°	2261	2029	1716
55°	2091	1839	1537
60°	1916	1642	1377
65°	1686	1438	1219
70°	1389	1259	1035
75°	1104	964	1011
80°	742	696	649
85°	463	553	645

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2442 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.4	4.7
10°-20°	330.5	13.0
20°-30°	457.6	18.0
30°-40°	487.9	19.2
40°-50°	445.1	17.5
50°-60°	348.7	13.7
60°-70°	227.3	8.9
70°-80°	100.7	4.0
80°-90°	21.6	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°	908.6	35.8
0°-40°	1396.5	55.0
0°-60°	2190.4	86.2
0°-90°	2540.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2540.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1294	1294	1294	1294	1294	
5°	1271	1270	1270	1268	1268	121
15°	1189	1189	1177	1165	1161	334
25°	1031	1025	1008	972	945	473
35°	836	830	790	730	712	523
45°	642	628	574	526	506	494
55°	446	432	392	346	328	400
65°	265	250	226	230	192	261
75°	106	99	93	88	97	114
85°	15	16	18	19	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1293.8	1293.8	1293.8	1293.8	1293.8
2.5°	1284.9	1284.9	1284.9	1283.4	1283.4
5°	1271.4	1269.9	1269.9	1268.4	1268.4
7.5°	1260.9	1259.4	1257.9	1256.4	1253.5
10°	1246.0	1246.0	1244.5	1237.0	1235.5
12.5°	1222.0	1220.5	1214.6	1204.1	1201.1
15°	1189.1	1189.1	1177.2	1165.2	1160.7
17.5°	1153.2	1151.7	1136.8	1124.8	1118.8
20°	1114.3	1111.4	1096.4	1077.0	1066.5
22.5°	1071.0	1071.0	1053.0	1027.6	1017.1
25°	1030.6	1024.6	1008.1	972.3	945.3
27.5°	984.2	975.2	957.3	906.4	875.0
30°	933.4	928.9	903.4	837.6	813.7
32.5°	885.5	878.0	851.1	782.3	762.8
35°	836.1	830.2	789.8	729.9	712.0
37.5°	786.8	779.3	728.4	680.6	658.1
40°	737.4	728.4	673.1	629.7	605.8
42.5°	691.0	679.1	625.2	578.9	551.9
45°	641.7	628.2	574.4	526.5	505.6
47.5°	592.3	580.4	531.0	481.6	457.7
50°	540.0	529.5	484.6	435.3	409.8
52.5°	496.6	480.1	436.8	387.4	366.5
55°	445.7	432.3	391.9	345.5	327.6
57.5°	399.4	385.9	348.5	305.1	290.2
60°	356.0	336.5	305.1	267.7	255.8
62.5°	308.1	293.2	266.2	234.8	249.8
65°	264.8	249.8	225.9	230.3	191.5
67.5°	216.9	209.4	188.5	167.5	161.5
70°	176.5	167.5	160.0	137.6	131.6
72.5°	140.6	131.6	121.2	109.2	104.7
75°	106.2	98.7	92.7	88.3	97.2
77.5°	73.3	70.3	65.8	61.3	59.8
80°	47.9	46.4	44.9	43.4	41.9
82.5°	28.4	28.4	28.4	28.4	28.4
85°	15.0	16.5	17.9	19.4	20.9
87.5°	9.0	9.0	10.5	12.0	13.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)