

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: P561040

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561040
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-LD4-1LO-40-UNV-82-84-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1957.0 lumens
Efficiency: N/A
Efficacy: 83.6 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

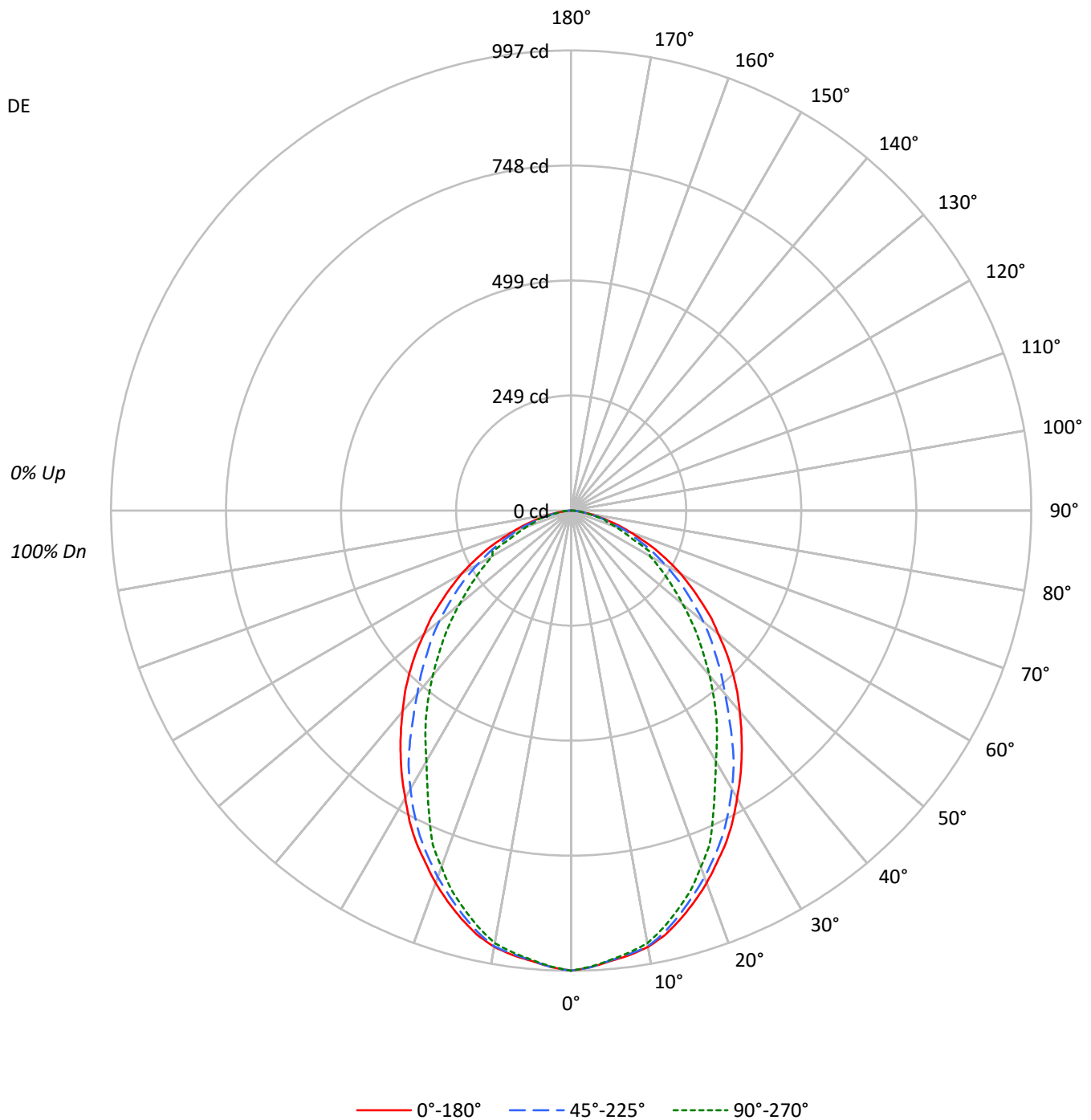
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2683	2683	2683
5°	2646	2643	2640
10°	2623	2620	2601
15°	2552	2527	2491
20°	2459	2419	2353
25°	2358	2306	2162
30°	2234	2163	1948
35°	2116	1999	1802
40°	1996	1822	1639
45°	1881	1684	1482
50°	1742	1563	1322
55°	1611	1416	1184
60°	1476	1265	1061
65°	1299	1108	939
70°	1070	970	798
75°	850	743	779
80°	572	536	501
85°	355	426	497

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1881 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.8	4.7
10°-20°	254.7	13.0
20°-30°	352.6	18.0
30°-40°	375.9	19.2
40°-50°	343.0	17.5
50°-60°	268.7	13.7
60°-70°	175.1	8.9
70°-80°	77.6	4.0
80°-90°	16.7	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°	700.0	35.8
0°-40°	1076.0	55.0
0°-60°	1687.6	86.2
0°-90°	1957.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1957.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	997	997	997	997	997	
5°	980	978	978	977	977	93
15°	916	916	907	898	894	258
25°	794	789	777	749	728	365
35°	644	640	608	562	549	403
45°	494	484	442	406	390	381
55°	343	333	302	266	252	308
65°	204	192	174	178	148	201
75°	82	76	72	68	75	88
85°	12	13	14	15	16	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	996.9	996.9	996.9	996.9	996.9
2.5°	990.0	990.0	990.0	988.8	988.8
5°	979.6	978.4	978.4	977.3	977.3
7.5°	971.5	970.4	969.2	968.1	965.8
10°	960.0	960.0	958.8	953.1	951.9
12.5°	941.6	940.4	935.8	927.7	925.4
15°	916.2	916.2	907.0	897.8	894.3
17.5°	888.5	887.4	875.9	866.6	862.0
20°	858.6	856.3	844.7	829.8	821.7
22.5°	825.2	825.2	811.3	791.7	783.7
25°	794.0	789.4	776.8	749.1	728.3
27.5°	758.3	751.4	737.6	698.4	674.2
30°	719.1	715.7	696.1	645.4	626.9
32.5°	682.3	676.5	655.7	602.7	587.7
35°	644.2	639.6	608.5	562.4	548.6
37.5°	606.2	600.4	561.2	524.4	507.1
40°	568.2	561.2	518.6	485.2	466.7
42.5°	532.4	523.2	481.7	446.0	425.3
45°	494.4	484.0	442.5	405.7	389.5
47.5°	456.4	447.2	409.1	371.1	352.6
50°	416.0	408.0	373.4	335.4	315.8
52.5°	382.6	369.9	336.5	298.5	282.4
55°	343.4	333.1	301.9	266.2	252.4
57.5°	307.7	297.3	268.5	235.1	223.6
60°	274.3	259.3	235.1	206.3	197.1
62.5°	237.4	225.9	205.1	180.9	192.5
65°	204.0	192.5	174.0	177.5	147.5
67.5°	167.1	161.3	145.2	129.1	124.5
70°	136.0	129.1	123.3	106.0	101.4
72.5°	108.3	101.4	93.3	84.1	80.7
75°	81.8	76.1	71.5	68.0	74.9
77.5°	56.5	54.2	50.7	47.3	46.1
80°	36.9	35.7	34.6	33.4	32.3
82.5°	21.9	21.9	21.9	21.9	21.9
85°	11.5	12.7	13.8	15.0	16.1
87.5°	6.9	6.9	8.1	9.2	10.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)