

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: P561029

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561029
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-81-86-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2306.0 lumens
Efficiency: N/A
Efficacy: 98.5 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

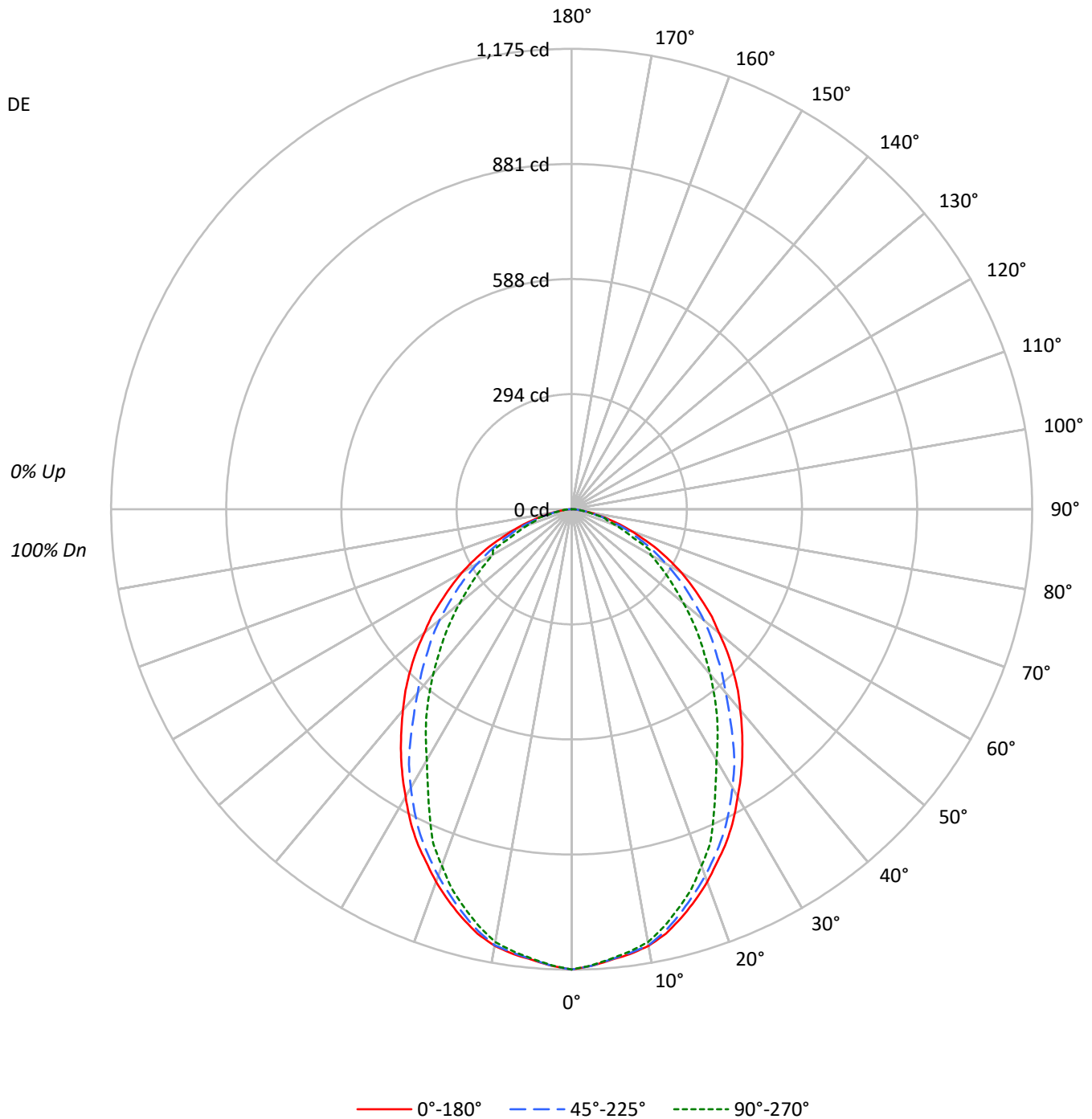
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3161	3161	3161
5°	3118	3114	3111
10°	3091	3087	3065
15°	3008	2977	2936
20°	2897	2851	2773
25°	2778	2718	2548
30°	2633	2549	2295
35°	2494	2355	2123
40°	2352	2147	1932
45°	2217	1985	1747
50°	2052	1842	1558
55°	1899	1669	1395
60°	1739	1491	1250
65°	1531	1306	1107
70°	1260	1143	940
75°	1002	875	918
80°	674	631	589
85°	420	503	587

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2217 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.3	4.7
10°-20°	300.1	13.0
20°-30°	415.4	18.0
30°-40°	443.0	19.2
40°-50°	404.1	17.5
50°-60°	316.6	13.7
60°-70°	206.3	8.9
70°-80°	91.4	4.0
80°-90°	19.6	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°	824.9	35.8
0°-40°	1267.9	55.0
0°-60°	1988.6	86.2
0°-90°	2306.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2306.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1175	1175	1175	1175	1175	
5°	1154	1153	1153	1152	1152	110
15°	1080	1080	1069	1058	1054	304
25°	936	930	915	883	858	430
35°	759	754	717	663	646	475
45°	583	570	522	478	459	449
55°	405	392	356	314	297	363
65°	240	227	205	209	174	237
75°	96	90	84	80	88	103
85°	14	15	16	18	19	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1174.6	1174.6	1174.6	1174.6	1174.6
2.5°	1166.5	1166.5	1166.5	1165.1	1165.1
5°	1154.3	1152.9	1152.9	1151.6	1151.6
7.5°	1144.8	1143.4	1142.1	1140.7	1138.0
10°	1131.2	1131.2	1129.8	1123.0	1121.7
12.5°	1109.5	1108.1	1102.7	1093.2	1090.5
15°	1079.6	1079.6	1068.7	1057.9	1053.8
17.5°	1047.0	1045.6	1032.1	1021.2	1015.8
20°	1011.7	1009.0	995.4	977.7	968.2
22.5°	972.3	972.3	956.0	932.9	923.4
25°	935.6	930.2	915.3	882.7	858.2
27.5°	893.5	885.4	869.1	822.9	794.4
30°	847.4	843.3	820.2	760.5	738.7
32.5°	803.9	797.1	772.7	710.2	692.6
35°	759.1	753.7	717.0	662.7	646.4
37.5°	714.3	707.5	661.3	617.9	597.5
40°	669.5	661.3	611.1	571.7	550.0
42.5°	627.4	616.5	567.6	525.5	501.1
45°	582.6	570.3	521.5	478.0	459.0
47.5°	537.8	526.9	482.1	437.3	415.5
50°	490.2	480.7	440.0	395.2	372.1
52.5°	450.8	435.9	396.5	351.7	332.7
55°	404.7	392.5	355.8	313.7	297.4
57.5°	362.6	350.4	316.4	277.0	263.4
60°	323.2	305.5	277.0	243.1	232.2
62.5°	279.7	266.2	241.7	213.2	226.8
65°	240.4	226.8	205.1	209.1	173.8
67.5°	196.9	190.1	171.1	152.1	146.7
70°	160.2	152.1	145.3	124.9	119.5
72.5°	127.6	119.5	110.0	99.1	95.1
75°	96.4	89.6	84.2	80.1	88.3
77.5°	66.5	63.8	59.8	55.7	54.3
80°	43.5	42.1	40.7	39.4	38.0
82.5°	25.8	25.8	25.8	25.8	25.8
85°	13.6	14.9	16.3	17.7	19.0
87.5°	8.1	8.1	9.5	10.9	12.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)