

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: P562198

Luminaire Tested: FSR-24-4-LD4-1LO-40-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562198
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-24-4-LD4-1LO-40-UNV-82-87-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2156.0 lumens
Efficiency: N/A
Efficacy: 92.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

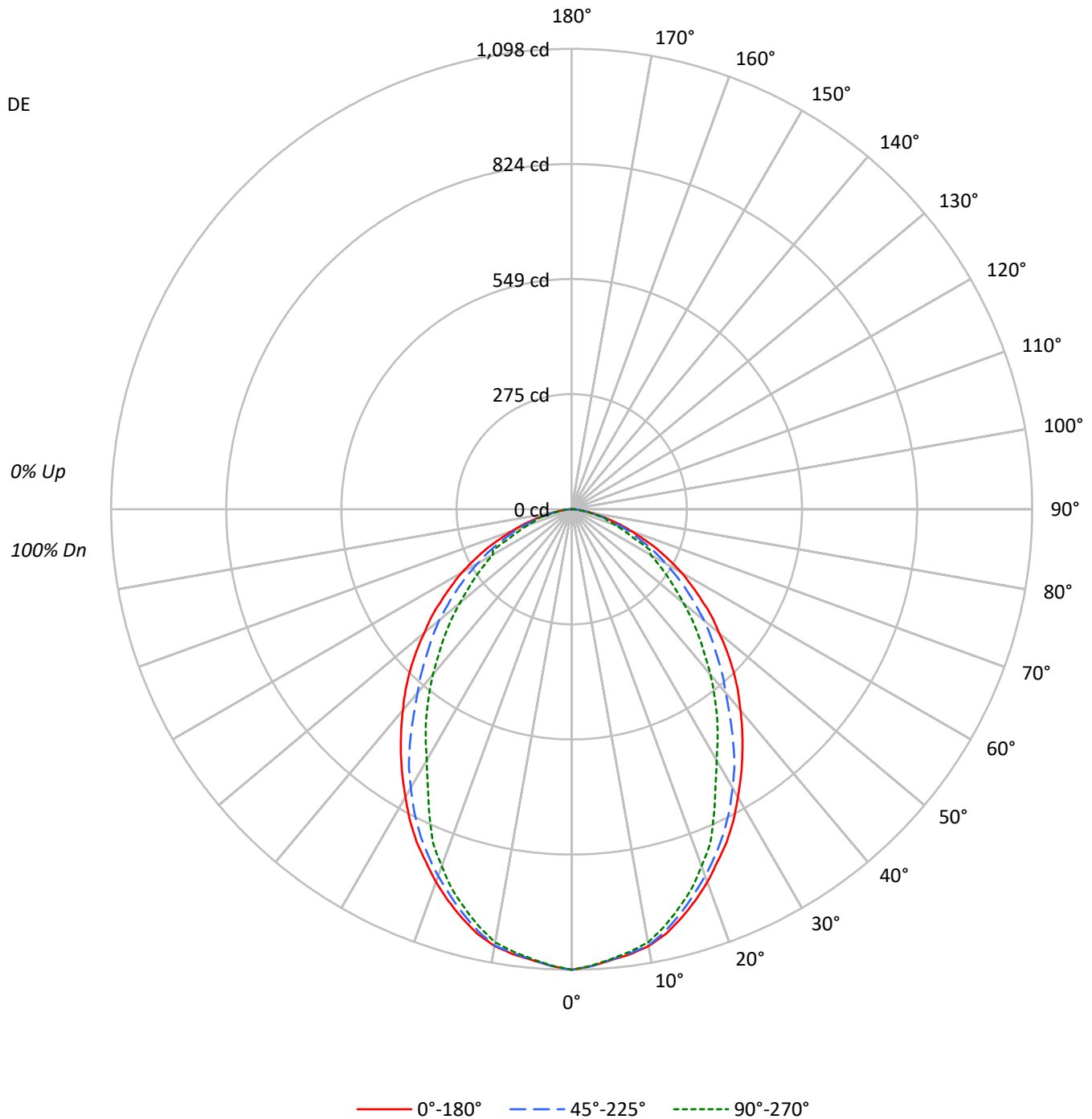
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	1478	1478	1478
5°	1458	1456	1454
10°	1445	1443	1433
15°	1406	1392	1372
20°	1354	1332	1296
25°	1299	1270	1191
30°	1231	1191	1073
35°	1166	1101	993
40°	1099	1003	903
45°	1036	928	816
50°	959	861	728
55°	888	780	652
60°	813	697	584
65°	715	610	517
70°	589	535	439
75°	468	409	429
80°	315	295	275
85°	196	235	275

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1036 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.2	4.7
10°-20°	280.6	13.0
20°-30°	388.4	18.0
30°-40°	414.2	19.2
40°-50°	377.8	17.5
50°-60°	296.0	13.7
60°-70°	192.9	8.9
70°-80°	85.5	4.0
80°-90°	18.3	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°	771.2	35.8
0°-40°	1185.4	55.0
0°-60°	1859.2	86.2
0°-90°	2156.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2156.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1098	1098	1098	1098	1098	
5°	1079	1078	1078	1077	1077	102
15°	1009	1009	999	989	985	284
25°	875	870	856	825	802	402
35°	710	705	670	620	604	444
45°	545	533	488	447	429	420
55°	378	367	333	293	278	339
65°	225	212	192	196	162	221
75°	90	84	79	75	82	97
85°	13	14	15	16	18	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1098.2	1098.2	1098.2	1098.2	1098.2
2.5°	1090.6	1090.6	1090.6	1089.4	1089.4
5°	1079.2	1077.9	1077.9	1076.7	1076.7
7.5°	1070.3	1069.0	1067.8	1066.5	1064.0
10°	1057.6	1057.6	1056.3	1050.0	1048.7
12.5°	1037.3	1036.0	1030.9	1022.1	1019.5
15°	1009.4	1009.4	999.2	989.0	985.2
17.5°	978.9	977.6	964.9	954.8	949.7
20°	945.9	943.3	930.6	914.1	905.3
22.5°	909.1	909.1	893.8	872.2	863.4
25°	874.8	869.7	855.7	825.3	802.4
27.5°	835.4	827.8	812.6	769.4	742.7
30°	792.3	788.4	766.9	711.0	690.7
32.5°	751.6	745.3	722.4	664.0	647.5
35°	709.7	704.6	670.4	619.6	604.3
37.5°	667.8	661.5	618.3	577.7	558.6
40°	625.9	618.3	571.3	534.5	514.2
42.5°	586.6	576.4	530.7	491.4	468.5
45°	544.7	533.2	487.5	446.9	429.1
47.5°	502.8	492.6	450.7	408.8	388.5
50°	458.3	449.5	411.4	369.5	347.9
52.5°	421.5	407.6	370.7	328.8	311.1
55°	378.4	366.9	332.6	293.3	278.1
57.5°	339.0	327.6	295.8	259.0	246.3
60°	302.2	285.7	259.0	227.3	217.1
62.5°	261.5	248.8	226.0	199.3	212.0
65°	224.7	212.0	191.7	195.5	162.5
67.5°	184.1	177.7	160.0	142.2	137.1
70°	149.8	142.2	135.9	116.8	111.7
72.5°	119.3	111.7	102.8	92.7	88.9
75°	90.1	83.8	78.7	74.9	82.5
77.5°	62.2	59.7	55.9	52.1	50.8
80°	40.6	39.4	38.1	36.8	35.5
82.5°	24.1	24.1	24.1	24.1	24.1
85°	12.7	14.0	15.2	16.5	17.8
87.5°	7.6	7.6	8.9	10.2	11.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)