

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: P561960

Luminaire Tested: FSR-24-2-LD4-1LO-35-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561960
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-24-2-LD4-1LO-35-UNV-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2063.0 lumens
Efficiency: N/A
Efficacy: 88.2 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

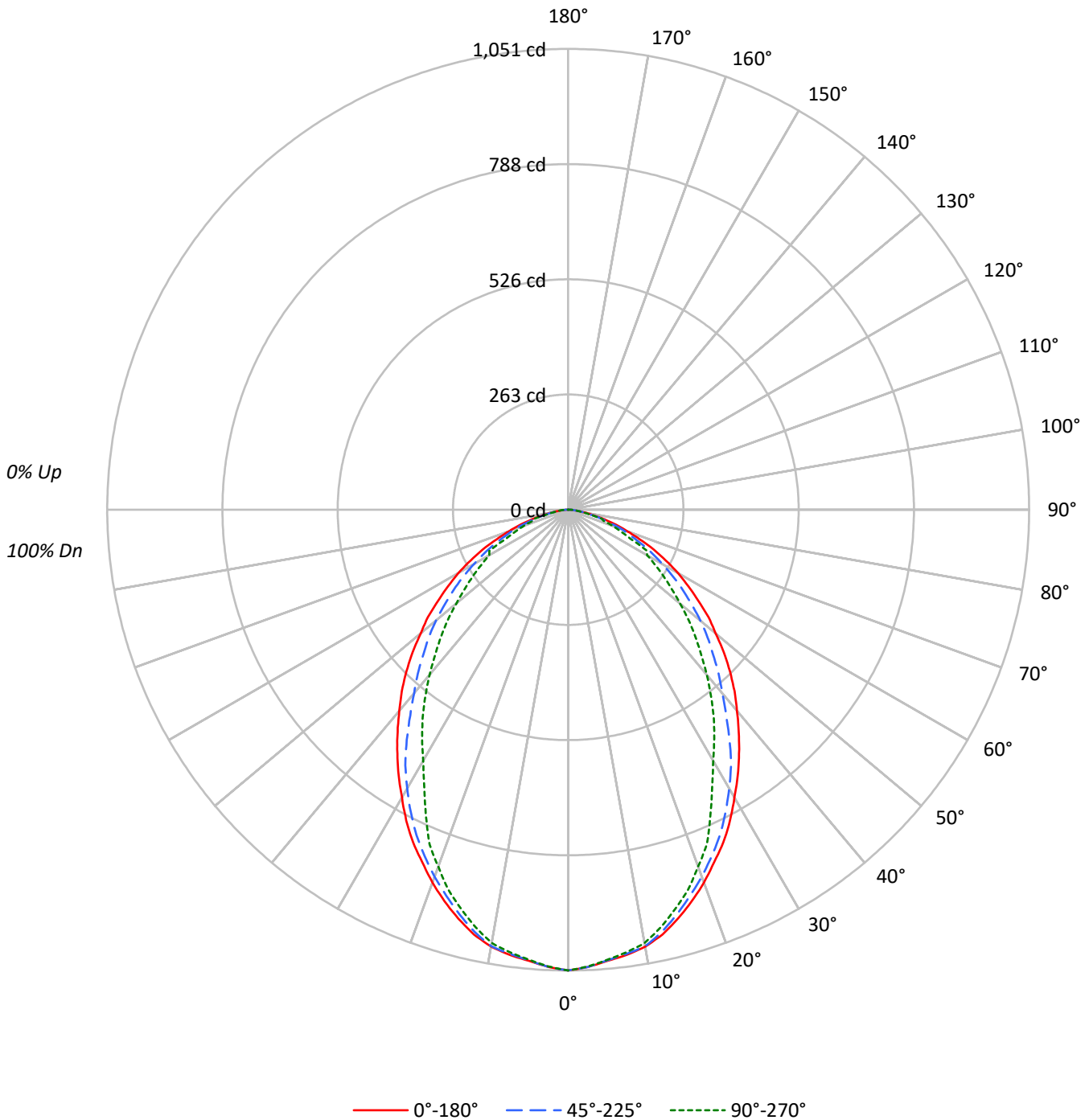
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	1414	1414	1414
5°	1395	1393	1391
10°	1383	1381	1371
15°	1345	1332	1313
20°	1296	1275	1240
25°	1243	1216	1140
30°	1178	1140	1027
35°	1115	1054	950
40°	1052	960	864
45°	992	888	781
50°	918	824	697
55°	849	747	624
60°	778	667	559
65°	684	584	495
70°	564	511	421
75°	449	391	411
80°	301	282	263
85°	187	225	262

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 992 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.8	4.7
10°-20°	268.5	13.0
20°-30°	371.7	18.0
30°-40°	396.3	19.2
40°-50°	361.6	17.5
50°-60°	283.2	13.7
60°-70°	184.6	8.9
70°-80°	81.8	4.0
80°-90°	17.6	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°	738.0	35.8
0°-40°	1134.3	55.0
0°-60°	1779.0	86.2
0°-90°	2063.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2063.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1051	1051	1051	1051	1051	
5°	1033	1031	1031	1030	1030	98
15°	966	966	956	946	943	272
25°	837	832	819	790	768	384
35°	679	674	642	593	578	425
45°	521	510	466	428	411	401
55°	362	351	318	281	266	325
65°	215	203	183	187	156	212
75°	86	80	75	72	79	92
85°	12	13	15	16	17	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1050.9	1050.9	1050.9	1050.9	1050.9
2.5°	1043.6	1043.6	1043.6	1042.4	1042.4
5°	1032.6	1031.4	1031.4	1030.2	1030.2
7.5°	1024.1	1022.9	1021.7	1020.5	1018.1
10°	1012.0	1012.0	1010.8	1004.7	1003.5
12.5°	992.6	991.3	986.5	978.0	975.5
15°	965.8	965.8	956.1	946.4	942.7
17.5°	936.7	935.5	923.3	913.6	908.7
20°	905.1	902.7	890.5	874.7	866.2
22.5°	869.8	869.8	855.3	834.6	826.1
25°	837.0	832.2	818.8	789.7	767.8
27.5°	799.4	792.1	777.5	736.2	710.7
30°	758.1	754.4	733.8	680.3	660.9
32.5°	719.2	713.1	691.3	635.4	619.6
35°	679.1	674.3	641.5	592.9	578.3
37.5°	639.0	632.9	591.6	552.8	534.5
40°	598.9	591.6	546.7	511.5	492.0
42.5°	561.3	551.6	507.8	470.2	448.3
45°	521.2	510.2	466.5	427.6	410.6
47.5°	481.1	471.4	431.3	391.2	371.8
50°	438.6	430.1	393.6	353.5	332.9
52.5°	403.3	390.0	354.7	314.7	297.6
55°	362.0	351.1	318.3	280.6	266.1
57.5°	324.4	313.4	283.1	247.8	235.7
60°	289.1	273.3	247.8	217.5	207.7
62.5°	250.3	238.1	216.2	190.7	202.9
65°	215.0	202.9	183.4	187.1	155.5
67.5°	176.2	170.1	153.1	136.1	131.2
70°	143.4	136.1	130.0	111.8	106.9
72.5°	114.2	106.9	98.4	88.7	85.0
75°	86.3	80.2	75.3	71.7	79.0
77.5°	59.5	57.1	53.5	49.8	48.6
80°	38.9	37.7	36.4	35.2	34.0
82.5°	23.1	23.1	23.1	23.1	23.1
85°	12.1	13.4	14.6	15.8	17.0
87.5°	7.3	7.3	8.5	9.7	10.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)