

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: P561952

Luminaire Tested: FSR-24-2-LD4-1LO-35-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561952
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-93-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2443.0 lumens
Efficiency: N/A
Efficacy: 104.4 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

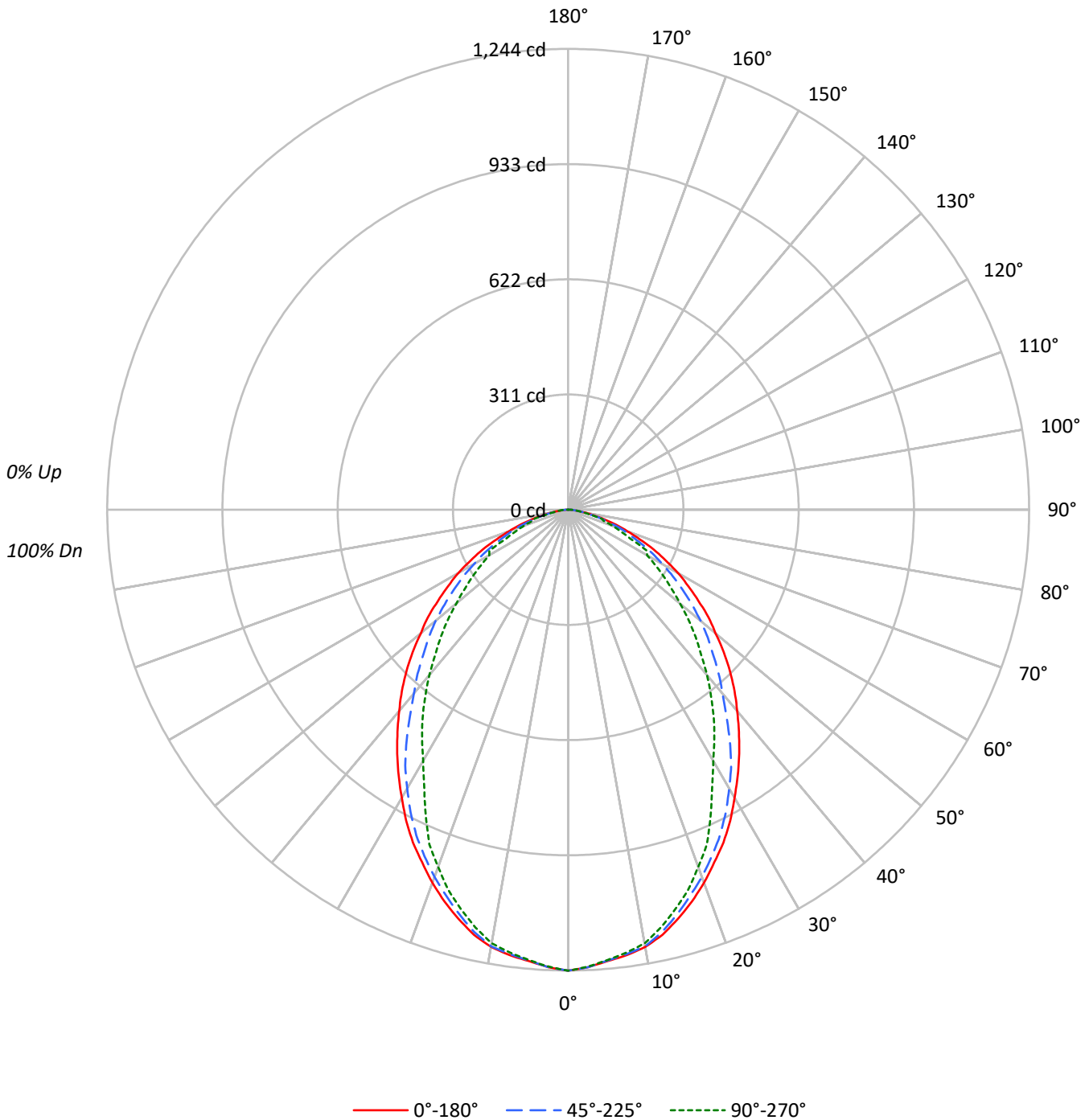
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	1674	1674	1674
5°	1652	1650	1648
10°	1637	1635	1624
15°	1593	1577	1555
20°	1535	1510	1469
25°	1472	1439	1350
30°	1395	1350	1216
35°	1321	1248	1125
40°	1246	1137	1023
45°	1174	1051	925
50°	1087	976	825
55°	1006	884	739
60°	921	790	662
65°	811	691	586
70°	668	605	498
75°	531	464	486
80°	356	335	312
85°	222	267	310

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1174 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.8	4.7
10°-20°	317.9	13.0
20°-30°	440.1	18.0
30°-40°	469.3	19.2
40°-50°	428.1	17.5
50°-60°	335.4	13.7
60°-70°	218.6	8.9
70°-80°	96.8	4.0
80°-90°	20.8	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°	873.9	35.8
0°-40°	1343.2	55.0
0°-60°	2106.7	86.2
0°-90°	2443.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2443.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1244	1244	1244	1244	1244	
5°	1223	1221	1221	1220	1220	116
15°	1144	1144	1132	1121	1116	322
25°	991	986	970	935	909	455
35°	804	798	760	702	685	503
45°	617	604	552	506	486	475
55°	429	416	377	332	315	385
65°	255	240	217	222	184	251
75°	102	95	89	85	94	109
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1244.4	1244.4	1244.4	1244.4	1244.4
2.5°	1235.8	1235.8	1235.8	1234.4	1234.4
5°	1222.9	1221.4	1221.4	1220.0	1220.0
7.5°	1212.8	1211.3	1209.9	1208.5	1205.6
10°	1198.4	1198.4	1197.0	1189.8	1188.3
12.5°	1175.4	1173.9	1168.2	1158.1	1155.2
15°	1143.7	1143.7	1132.2	1120.7	1116.4
17.5°	1109.2	1107.8	1093.4	1081.9	1076.1
20°	1071.8	1068.9	1054.5	1035.8	1025.8
22.5°	1030.1	1030.1	1012.8	988.4	978.3
25°	991.2	985.5	969.6	935.1	909.2
27.5°	946.6	938.0	920.7	871.8	841.6
30°	897.7	893.4	868.9	805.6	782.6
32.5°	851.7	844.5	818.6	752.4	733.7
35°	804.2	798.5	759.6	702.1	684.8
37.5°	756.7	749.5	700.6	654.6	633.0
40°	709.3	700.6	647.4	605.7	582.7
42.5°	664.7	653.1	601.4	556.8	530.9
45°	617.2	604.2	552.4	506.4	486.3
47.5°	569.7	558.2	510.7	463.2	440.2
50°	519.4	509.3	466.1	418.6	394.2
52.5°	477.6	461.8	420.1	372.6	352.5
55°	428.7	415.8	376.9	332.3	315.1
57.5°	384.1	371.2	335.2	293.5	279.1
60°	342.4	323.7	293.5	257.5	246.0
62.5°	296.4	282.0	256.1	225.9	240.3
65°	254.6	240.3	217.2	221.6	184.1
67.5°	208.6	201.4	181.3	161.1	155.4
70°	169.8	161.1	153.9	132.4	126.6
72.5°	135.2	126.6	116.5	105.0	100.7
75°	102.1	95.0	89.2	84.9	93.5
77.5°	70.5	67.6	63.3	59.0	57.5
80°	46.0	44.6	43.2	41.7	40.3
82.5°	27.3	27.3	27.3	27.3	27.3
85°	14.4	15.8	17.3	18.7	20.1
87.5°	8.6	8.6	10.1	11.5	12.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)