

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: P561964

Luminaire Tested: FSR-24-2-LD4-1LO-35-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561964
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-93-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

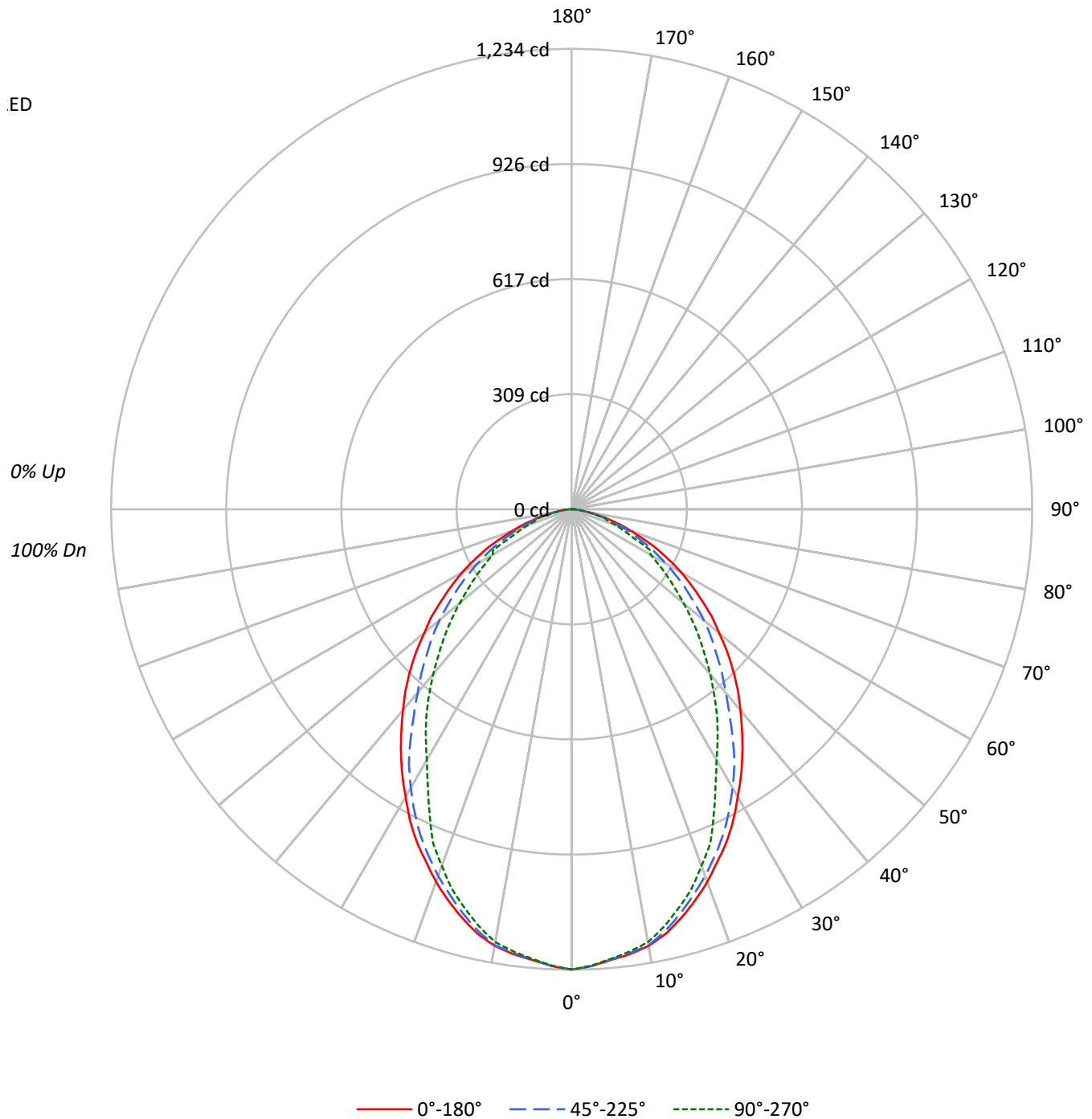
Lumens per Lamp: N/A
Luminaire Lumens: 2422.0 lumens
Efficiency: N/A
Efficacy: 103.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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																												
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°	1660	1660	1660
5°	1637	1635	1634
10°	1623	1621	1610
15°	1579	1564	1542
20°	1521	1497	1456
25°	1459	1427	1338
30°	1383	1338	1205
35°	1310	1237	1115
40°	1235	1127	1015
45°	1164	1042	917
50°	1078	967	818
55°	997	877	733
60°	914	783	656
65°	804	686	581
70°	662	600	494
75°	527	460	482
80°	353	332	309
85°	221	264	309

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1164 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.8	4.7
10°-20°	315.2	13.0
20°-30°	436.3	18.0
30°-40°	465.3	19.2
40°-50°	424.5	17.5
50°-60°	332.5	13.7
60°-70°	216.7	8.9
70°-80°	96.0	4.0
80°-90°	20.6	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°	866.4	35.8
0°-40°	1331.6	55.0
0°-60°	2088.6	86.2
0°-90°	2422.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2422.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1234	1234	1234	1234	1234	
5°	1212	1211	1211	1210	1210	115
15°	1134	1134	1122	1111	1107	319
25°	983	977	961	927	901	451
35°	797	792	753	696	679	498
45°	612	599	548	502	482	471
55°	425	412	374	330	312	381
65°	252	238	215	220	183	249
75°	101	94	88	84	93	109
85°	14	16	17	18	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1233.7	1233.7	1233.7	1233.7	1233.7
2.5°	1225.2	1225.2	1225.2	1223.8	1223.8
5°	1212.3	1210.9	1210.9	1209.5	1209.5
7.5°	1202.4	1200.9	1199.5	1198.1	1195.2
10°	1188.1	1188.1	1186.7	1179.5	1178.1
12.5°	1165.3	1163.8	1158.1	1148.2	1145.3
15°	1133.9	1133.9	1122.5	1111.1	1106.8
17.5°	1099.7	1098.2	1084.0	1072.6	1066.9
20°	1062.6	1059.7	1045.5	1026.9	1016.9
22.5°	1021.2	1021.2	1004.1	979.9	969.9
25°	982.7	977.0	961.3	927.1	901.4
27.5°	938.5	929.9	912.8	864.3	834.4
30°	890.0	885.7	861.5	798.7	775.9
32.5°	844.4	837.2	811.6	745.9	727.4
35°	797.3	791.6	753.1	696.0	678.9
37.5°	750.2	743.1	694.6	649.0	627.6
40°	703.2	694.6	641.8	600.5	577.6
42.5°	658.9	647.5	596.2	552.0	526.3
45°	611.9	599.0	547.7	502.1	482.1
47.5°	564.8	553.4	506.3	459.3	436.4
50°	514.9	504.9	462.1	415.0	390.8
52.5°	473.5	457.8	416.5	369.4	349.4
55°	425.0	412.2	373.7	329.5	312.4
57.5°	380.8	368.0	332.3	291.0	276.7
60°	339.5	320.9	291.0	255.3	243.9
62.5°	293.8	279.6	253.9	223.9	238.2
65°	252.5	238.2	215.4	219.6	182.6
67.5°	206.8	199.7	179.7	159.7	154.0
70°	168.3	159.7	152.6	131.2	125.5
72.5°	134.1	125.5	115.5	104.1	99.8
75°	101.3	94.1	88.4	84.2	92.7
77.5°	69.9	67.0	62.8	58.5	57.1
80°	45.6	44.2	42.8	41.4	39.9
82.5°	27.1	27.1	27.1	27.1	27.1
85°	14.3	15.7	17.1	18.5	20.0
87.5°	8.6	8.6	10.0	11.4	12.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)