

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: P561185

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561185
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-LD4-1STD-35-UNV-93-84-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3328.0 lumens
Efficiency: N/A
Efficacy: 99.9 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

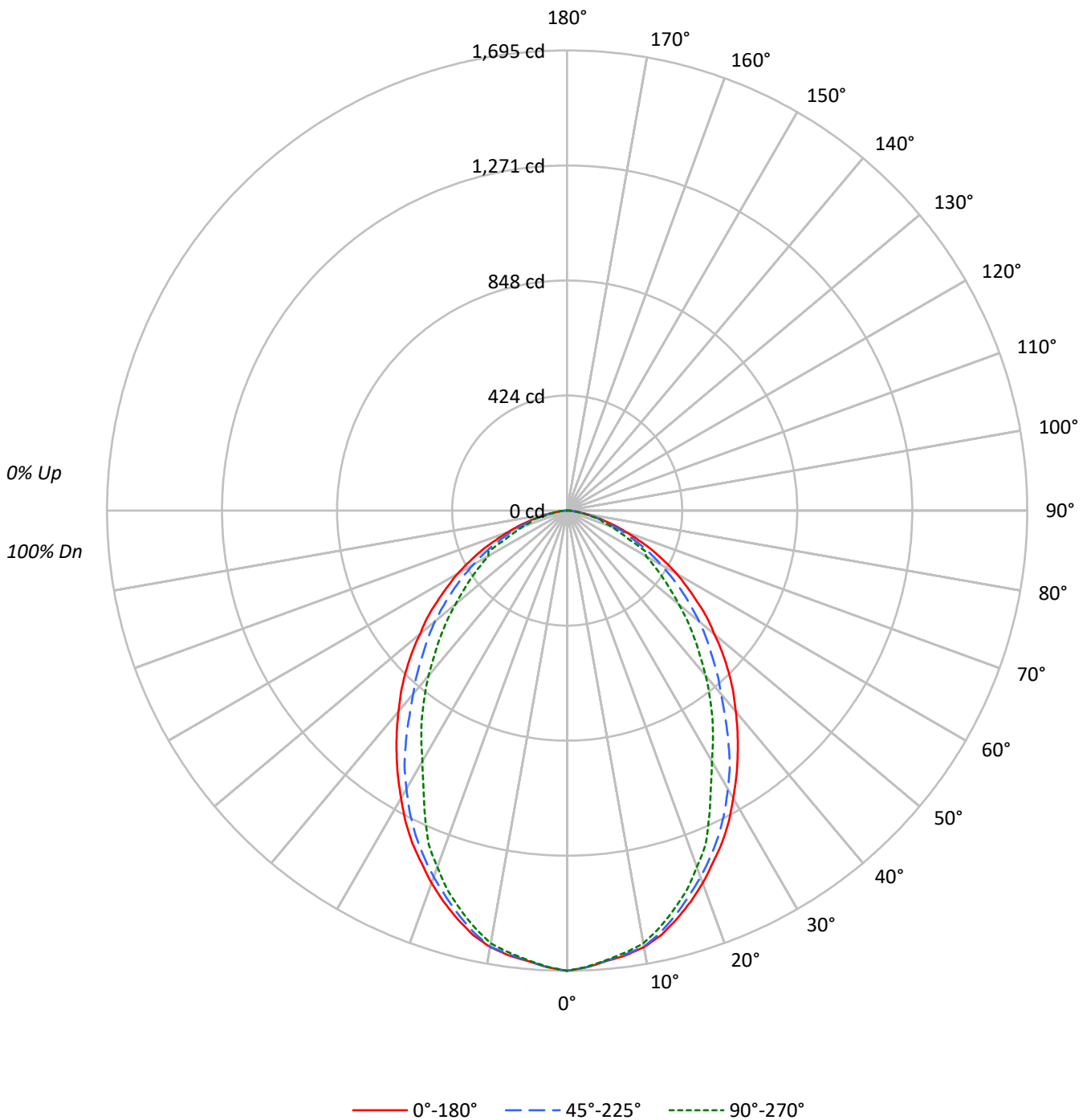
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4562	4562	4562
5°	4500	4495	4489
10°	4461	4456	4423
15°	4341	4297	4237
20°	4181	4114	4001
25°	4009	3922	3678
30°	3800	3678	3313
35°	3599	3399	3065
40°	3394	3098	2788
45°	3200	2864	2521
50°	2962	2658	2248
55°	2740	2409	2014
60°	2510	2152	1803
65°	2209	1884	1598
70°	1820	1650	1357
75°	1446	1263	1325
80°	972	911	851
85°	605	726	846

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3200 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.8	4.7
10°-20°	433.1	13.0
20°-30°	599.6	18.0
30°-40°	639.3	19.2
40°-50°	583.2	17.5
50°-60°	456.9	13.7
60°-70°	297.8	8.9
70°-80°	131.9	4.0
80°-90°	28.3	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°	1190.5	35.8
0°-40°	1829.8	55.0
0°-60°	2869.9	86.2
0°-90°	3328.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3328.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1695	1695	1695	1695	1695	
5°	1666	1664	1664	1662	1662	158
15°	1558	1558	1542	1527	1521	438
25°	1350	1342	1321	1274	1239	620
35°	1096	1088	1035	956	933	685
45°	841	823	753	690	662	648
55°	584	566	514	453	429	524
65°	347	327	296	302	251	342
75°	139	129	122	116	127	149
85°	20	22	24	26	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1695.2	1695.2	1695.2	1695.2	1695.2
2.5°	1683.5	1683.5	1683.5	1681.5	1681.5
5°	1665.8	1663.9	1663.9	1661.9	1661.9
7.5°	1652.1	1650.2	1648.2	1646.2	1642.3
10°	1632.5	1632.5	1630.6	1620.8	1618.8
12.5°	1601.2	1599.2	1591.4	1577.6	1573.7
15°	1558.1	1558.1	1542.4	1526.7	1520.8
17.5°	1511.0	1509.1	1489.5	1473.8	1465.9
20°	1460.1	1456.1	1436.5	1411.1	1397.3
22.5°	1403.2	1403.2	1379.7	1346.4	1332.7
25°	1350.3	1342.5	1320.9	1273.9	1238.6
27.5°	1289.6	1277.8	1254.3	1187.6	1146.5
30°	1222.9	1217.0	1183.7	1097.5	1066.1
32.5°	1160.2	1150.4	1115.1	1025.0	999.5
35°	1095.5	1087.7	1034.8	956.4	932.9
37.5°	1030.9	1021.1	954.4	891.7	862.3
40°	966.2	954.4	881.9	825.1	793.7
42.5°	905.4	889.8	819.2	758.4	723.2
45°	840.8	823.1	752.6	689.9	662.4
47.5°	776.1	760.4	695.7	631.1	599.7
50°	707.5	693.8	635.0	570.3	537.0
52.5°	650.7	629.1	572.3	507.6	480.2
55°	584.0	566.4	513.5	452.7	429.2
57.5°	523.3	505.6	456.6	399.8	380.2
60°	466.4	441.0	399.8	350.8	335.1
62.5°	403.7	384.1	348.8	307.7	327.3
65°	346.9	327.3	295.9	301.8	250.9
67.5°	284.2	274.4	246.9	219.5	211.7
70°	231.3	219.5	209.7	180.3	172.5
72.5°	184.2	172.5	158.7	143.1	137.2
75°	139.1	129.3	121.5	115.6	127.4
77.5°	96.0	92.1	86.2	80.4	78.4
80°	62.7	60.8	58.8	56.8	54.9
82.5°	37.2	37.2	37.2	37.2	37.2
85°	19.6	21.6	23.5	25.5	27.4
87.5°	11.8	11.8	13.7	15.7	17.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)