

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: P562409

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562409
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-LD4-1STD-40-UNV-93-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3335.0 lumens
Efficiency: N/A
Efficacy: 100.2 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

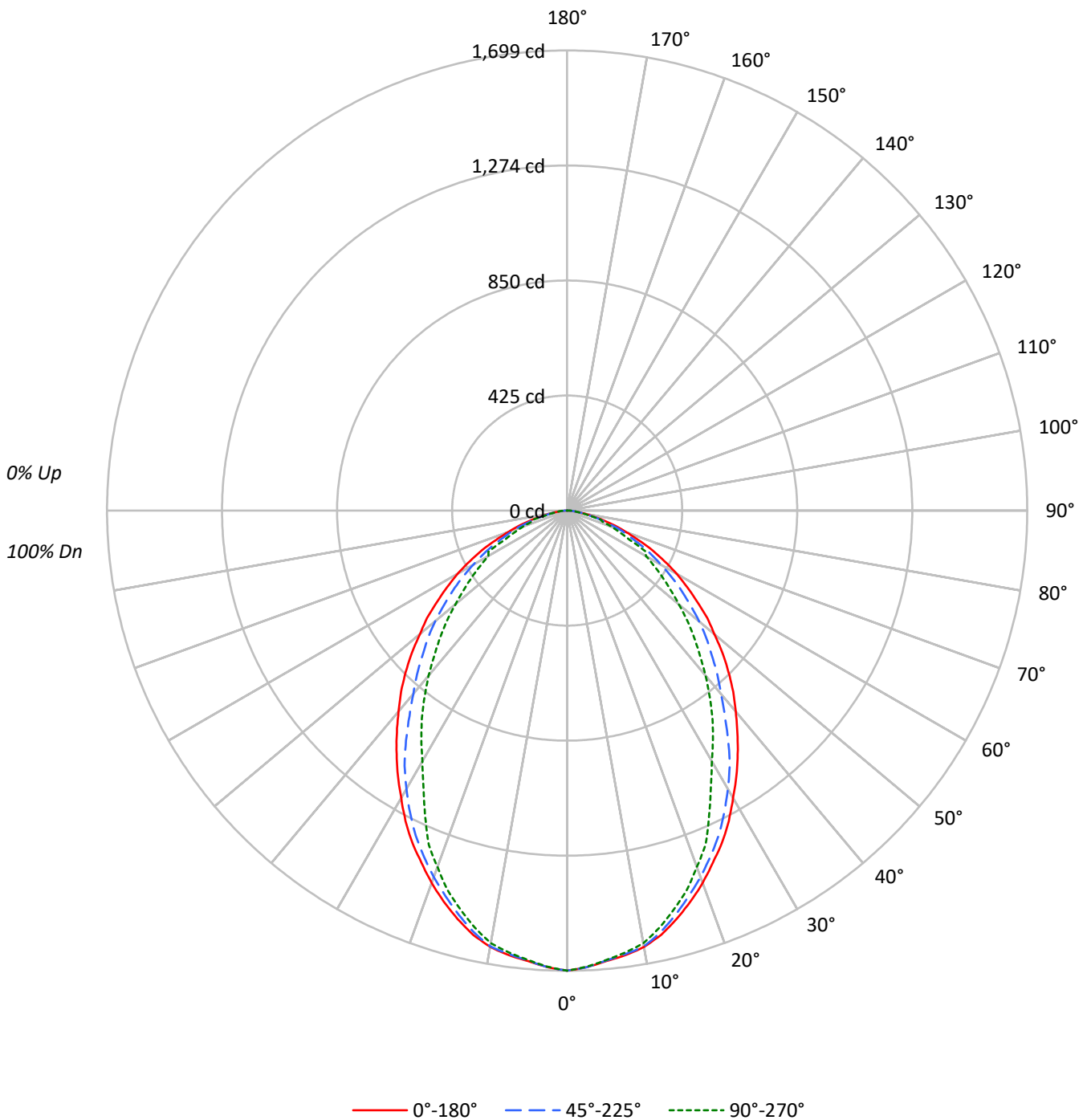
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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				
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°	2286	2286	2286
5°	2255	2252	2249
10°	2235	2232	2216
15°	2175	2153	2123
20°	2095	2061	2005
25°	2009	1965	1843
30°	1904	1843	1660
35°	1803	1703	1535
40°	1701	1552	1397
45°	1603	1435	1263
50°	1484	1332	1126
55°	1373	1207	1009
60°	1258	1078	904
65°	1107	944	800
70°	911	827	680
75°	725	633	664
80°	487	456	426
85°	303	364	425

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1603 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.1	4.7
10°-20°	434.0	13.0
20°-30°	600.8	18.0
30°-40°	640.7	19.2
40°-50°	584.5	17.5
50°-60°	457.9	13.7
60°-70°	298.4	8.9
70°-80°	132.2	4.0
80°-90°	28.4	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°	1193.0	35.8
0°-40°	1833.6	55.0
0°-60°	2876.0	86.2
0°-90°	3335.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3335.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1699	1699	1699	1699	1699	
5°	1669	1667	1667	1665	1665	158
15°	1561	1561	1546	1530	1524	439
25°	1353	1345	1324	1277	1241	621
35°	1098	1090	1037	958	935	686
45°	842	825	754	691	664	649
55°	585	568	515	454	430	525
65°	348	328	297	302	251	343
75°	139	130	122	116	128	149
85°	20	22	24	26	28	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1698.8	1698.8	1698.8	1698.8	1698.8
2.5°	1687.0	1687.0	1687.0	1685.1	1685.1
5°	1669.3	1667.4	1667.4	1665.4	1665.4
7.5°	1655.6	1653.6	1651.7	1649.7	1645.8
10°	1636.0	1636.0	1634.0	1624.2	1622.2
12.5°	1604.5	1602.6	1594.7	1581.0	1577.0
15°	1561.3	1561.3	1545.6	1529.9	1524.0
17.5°	1514.2	1512.2	1492.6	1476.9	1469.0
20°	1463.1	1459.2	1439.6	1414.0	1400.3
22.5°	1406.2	1406.2	1382.6	1349.2	1335.5
25°	1353.2	1345.3	1323.7	1276.6	1241.2
27.5°	1292.3	1280.5	1256.9	1190.1	1148.9
30°	1225.5	1219.6	1186.2	1099.8	1068.4
32.5°	1162.6	1152.8	1117.5	1027.1	1001.6
35°	1097.8	1090.0	1037.0	958.4	934.8
37.5°	1033.0	1023.2	956.4	893.6	864.1
40°	968.2	956.4	883.8	826.8	795.4
42.5°	907.3	891.6	820.9	760.0	724.7
45°	842.5	824.9	754.2	691.3	663.8
47.5°	777.7	762.0	697.2	632.4	601.0
50°	709.0	695.2	636.3	571.5	538.1
52.5°	652.0	630.4	573.5	508.7	481.2
55°	585.3	567.6	514.6	453.7	430.1
57.5°	524.4	506.7	457.6	400.6	381.0
60°	467.4	441.9	400.6	351.5	335.8
62.5°	404.6	384.9	349.6	308.3	328.0
65°	347.6	328.0	296.6	302.4	251.4
67.5°	284.8	275.0	247.5	220.0	212.1
70°	231.7	220.0	210.1	180.7	172.8
72.5°	184.6	172.8	159.1	143.4	137.5
75°	139.4	129.6	121.8	115.9	127.7
77.5°	96.2	92.3	86.4	80.5	78.6
80°	62.8	60.9	58.9	57.0	55.0
82.5°	37.3	37.3	37.3	37.3	37.3
85°	19.6	21.6	23.6	25.5	27.5
87.5°	11.8	11.8	13.7	15.7	17.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)