

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: P561221

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561221
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-40-UNV-81-86-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3088.0 lumens
Efficiency: N/A
Efficacy: 92.7 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

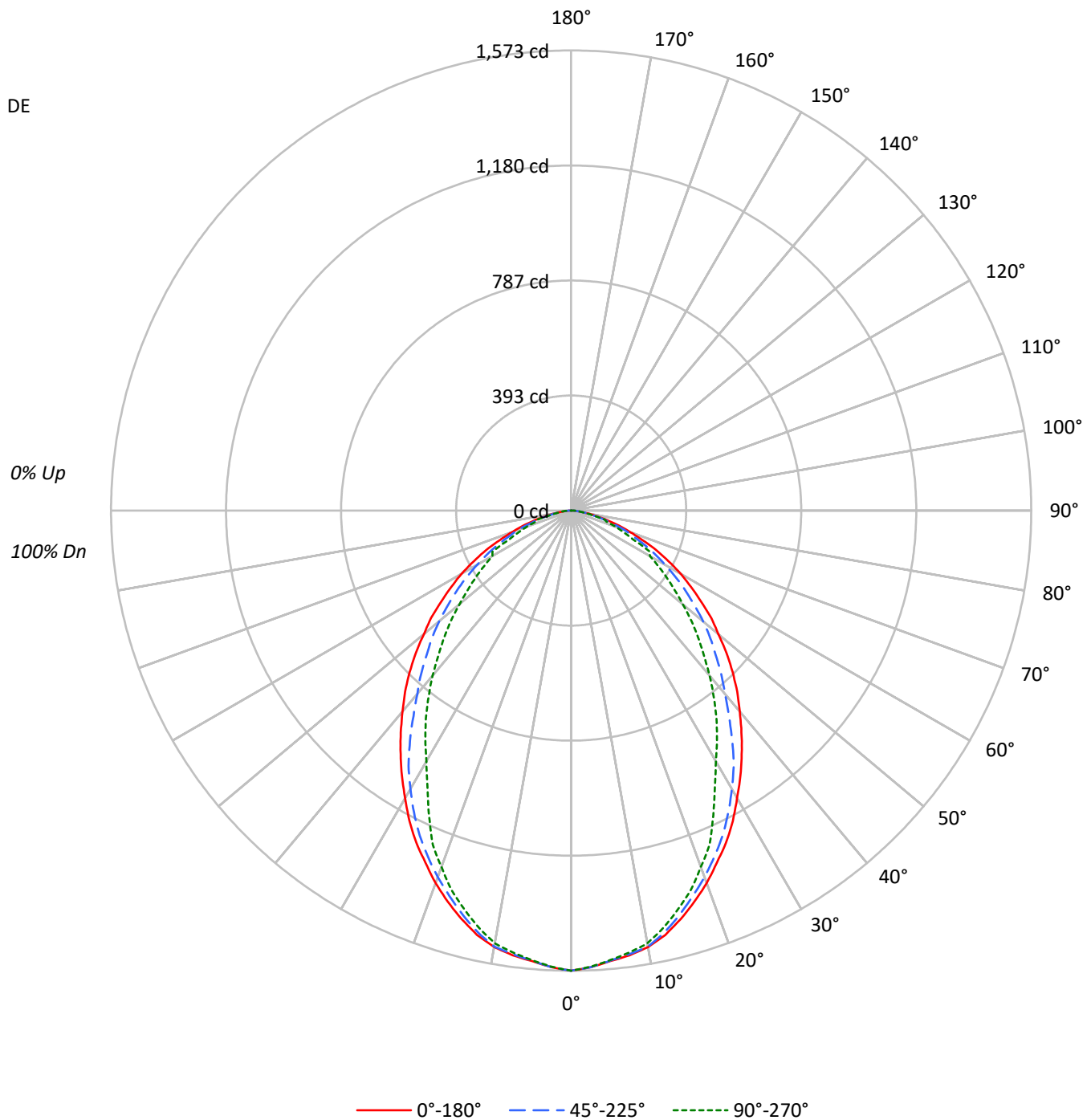
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4233	4233	4233
5°	4175	4170	4166
10°	4139	4134	4104
15°	4028	3987	3931
20°	3880	3817	3713
25°	3720	3639	3412
30°	3526	3413	3074
35°	3339	3154	2844
40°	3149	2875	2587
45°	2969	2657	2339
50°	2748	2467	2086
55°	2542	2235	1868
60°	2329	1997	1674
65°	2050	1748	1482
70°	1688	1531	1259
75°	1342	1172	1229
80°	902	846	789
85°	562	673	787

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2969 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.4	4.7
10°-20°	401.8	13.0
20°-30°	556.3	18.0
30°-40°	593.2	19.2
40°-50°	541.2	17.5
50°-60°	424.0	13.7
60°-70°	276.3	8.9
70°-80°	122.4	4.0
80°-90°	26.3	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°	1104.6	35.8
0°-40°	1697.8	55.0
0°-60°	2663.0	86.2
0°-90°	3088.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3088.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1573	1573	1573	1573	1573	
5°	1546	1544	1544	1542	1542	147
15°	1446	1446	1431	1417	1411	406
25°	1253	1246	1226	1182	1149	575
35°	1016	1009	960	887	866	635
45°	780	764	698	640	615	601
55°	542	526	476	420	398	486
65°	322	304	275	280	233	317
75°	129	120	113	107	118	138
85°	18	20	22	24	26	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1573.0	1573.0	1573.0	1573.0	1573.0
2.5°	1562.1	1562.1	1562.1	1560.3	1560.3
5°	1545.7	1543.9	1543.9	1542.1	1542.1
7.5°	1533.0	1531.2	1529.3	1527.5	1523.9
10°	1514.8	1514.8	1513.0	1503.9	1502.1
12.5°	1485.7	1483.9	1476.6	1463.9	1460.2
15°	1445.7	1445.7	1431.1	1416.6	1411.1
17.5°	1402.0	1400.2	1382.0	1367.5	1360.2
20°	1354.8	1351.1	1332.9	1309.3	1296.6
22.5°	1302.0	1302.0	1280.2	1249.3	1236.6
25°	1252.9	1245.7	1225.7	1182.0	1149.3
27.5°	1196.6	1185.6	1163.8	1102.0	1063.8
30°	1134.7	1129.3	1098.4	1018.3	989.3
32.5°	1076.5	1067.4	1034.7	951.1	927.4
35°	1016.5	1009.3	960.2	887.4	865.6
37.5°	956.5	947.4	885.6	827.4	800.1
40°	896.5	885.6	818.3	765.6	736.5
42.5°	840.1	825.6	760.1	703.8	671.0
45°	780.1	763.8	698.3	640.1	614.6
47.5°	720.1	705.6	645.6	585.6	556.5
50°	656.5	643.7	589.2	529.2	498.3
52.5°	603.7	583.7	531.0	471.0	445.5
55°	541.9	525.5	476.4	420.1	398.2
57.5°	485.5	469.2	423.7	371.0	352.8
60°	432.8	409.2	371.0	325.5	311.0
62.5°	374.6	356.4	323.7	285.5	303.7
65°	321.9	303.7	274.6	280.0	232.8
67.5°	263.7	254.6	229.1	203.7	196.4
70°	214.6	203.7	194.6	167.3	160.0
72.5°	170.9	160.0	147.3	132.7	127.3
75°	129.1	120.0	112.7	107.3	118.2
77.5°	89.1	85.5	80.0	74.6	72.7
80°	58.2	56.4	54.6	52.7	50.9
82.5°	34.6	34.6	34.6	34.6	34.6
85°	18.2	20.0	21.8	23.6	25.5
87.5°	10.9	10.9	12.7	14.5	16.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)