

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: P561186

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561186
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-93-85-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2729.0 lumens
Efficiency: N/A
Efficacy: 82.0 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

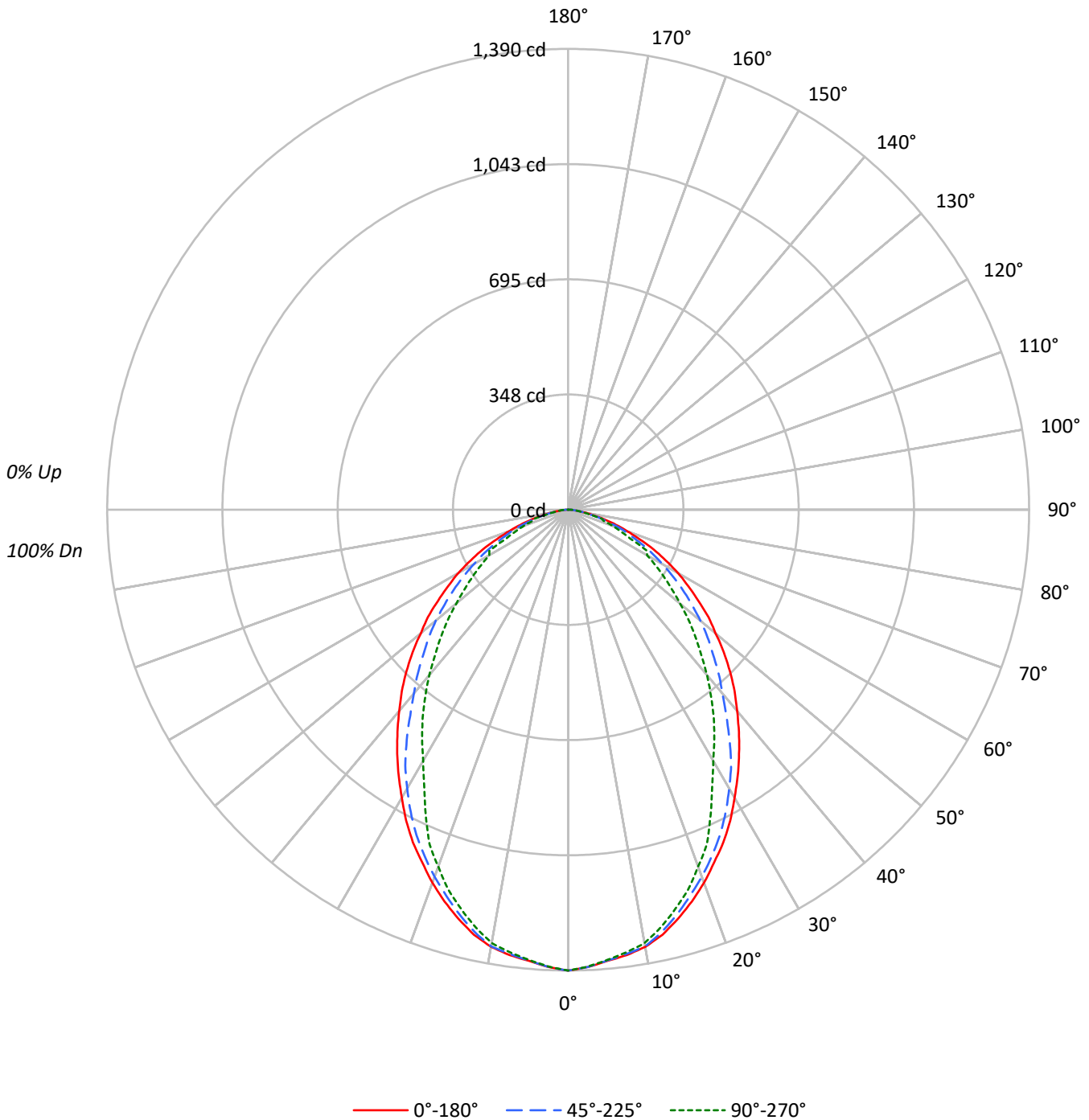
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3741	3741	3741
5°	3690	3686	3681
10°	3658	3654	3627
15°	3559	3524	3474
20°	3429	3373	3281
25°	3288	3216	3016
30°	3116	3016	2716
35°	2951	2787	2513
40°	2783	2540	2286
45°	2624	2348	2067
50°	2429	2180	1843
55°	2247	1976	1651
60°	2059	1764	1479
65°	1812	1545	1310
70°	1492	1353	1113
75°	1186	1036	1087
80°	797	747	697
85°	497	596	695

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2624 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.4	4.7
10°-20°	355.1	13.0
20°-30°	491.7	18.0
30°-40°	524.2	19.2
40°-50°	478.3	17.5
50°-60°	374.7	13.7
60°-70°	244.2	8.9
70°-80°	108.2	4.0
80°-90°	23.2	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
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0°-30°	976.2	35.8
0°-40°	1500.4	55.0
0°-60°	2353.4	86.2
0°-90°	2729.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2729.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1390	1390	1390	1390	1390	
5°	1366	1364	1364	1363	1363	130
15°	1278	1278	1265	1252	1247	359
25°	1107	1101	1083	1045	1016	508
35°	898	892	848	784	765	562
45°	689	675	617	566	543	531
55°	479	464	421	371	352	430
65°	284	268	243	248	206	280
75°	114	106	100	95	104	122
85°	16	18	19	21	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1390.1	1390.1	1390.1	1390.1	1390.1
2.5°	1380.5	1380.5	1380.5	1378.9	1378.9
5°	1366.0	1364.4	1364.4	1362.8	1362.8
7.5°	1354.8	1353.2	1351.5	1349.9	1346.7
10°	1338.7	1338.7	1337.1	1329.0	1327.4
12.5°	1313.0	1311.4	1304.9	1293.7	1290.5
15°	1277.6	1277.6	1264.8	1251.9	1247.1
17.5°	1239.1	1237.4	1221.4	1208.5	1202.1
20°	1197.3	1194.1	1178.0	1157.1	1145.8
22.5°	1150.7	1150.7	1131.4	1104.1	1092.8
25°	1107.3	1100.8	1083.2	1044.6	1015.7
27.5°	1057.5	1047.8	1028.5	973.9	940.1
30°	1002.8	998.0	970.7	900.0	874.2
32.5°	951.4	943.4	914.4	840.5	819.6
35°	898.4	891.9	848.5	784.3	765.0
37.5°	845.3	837.3	782.6	731.2	707.1
40°	792.3	782.6	723.2	676.6	650.9
42.5°	742.5	729.6	671.8	621.9	593.0
45°	689.4	675.0	617.1	565.7	543.2
47.5°	636.4	623.5	570.5	517.5	491.8
50°	580.2	568.9	520.7	467.7	440.3
52.5°	533.5	515.9	469.3	416.2	393.7
55°	478.9	464.4	421.1	371.2	351.9
57.5°	429.1	414.6	374.4	327.8	311.8
60°	382.5	361.6	327.8	287.7	274.8
62.5°	331.1	315.0	286.1	252.3	268.4
65°	284.5	268.4	242.7	247.5	205.7
67.5°	233.0	225.0	202.5	180.0	173.6
70°	189.6	180.0	172.0	147.9	141.4
72.5°	151.1	141.4	130.2	117.3	112.5
75°	114.1	106.1	99.6	94.8	104.5
77.5°	78.7	75.5	70.7	65.9	64.3
80°	51.4	49.8	48.2	46.6	45.0
82.5°	30.5	30.5	30.5	30.5	30.5
85°	16.1	17.7	19.3	20.9	22.5
87.5°	9.6	9.6	11.2	12.9	14.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)