

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: P561216

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561216
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-81-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2678.0 lumens
Efficiency: N/A
Efficacy: 80.4 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

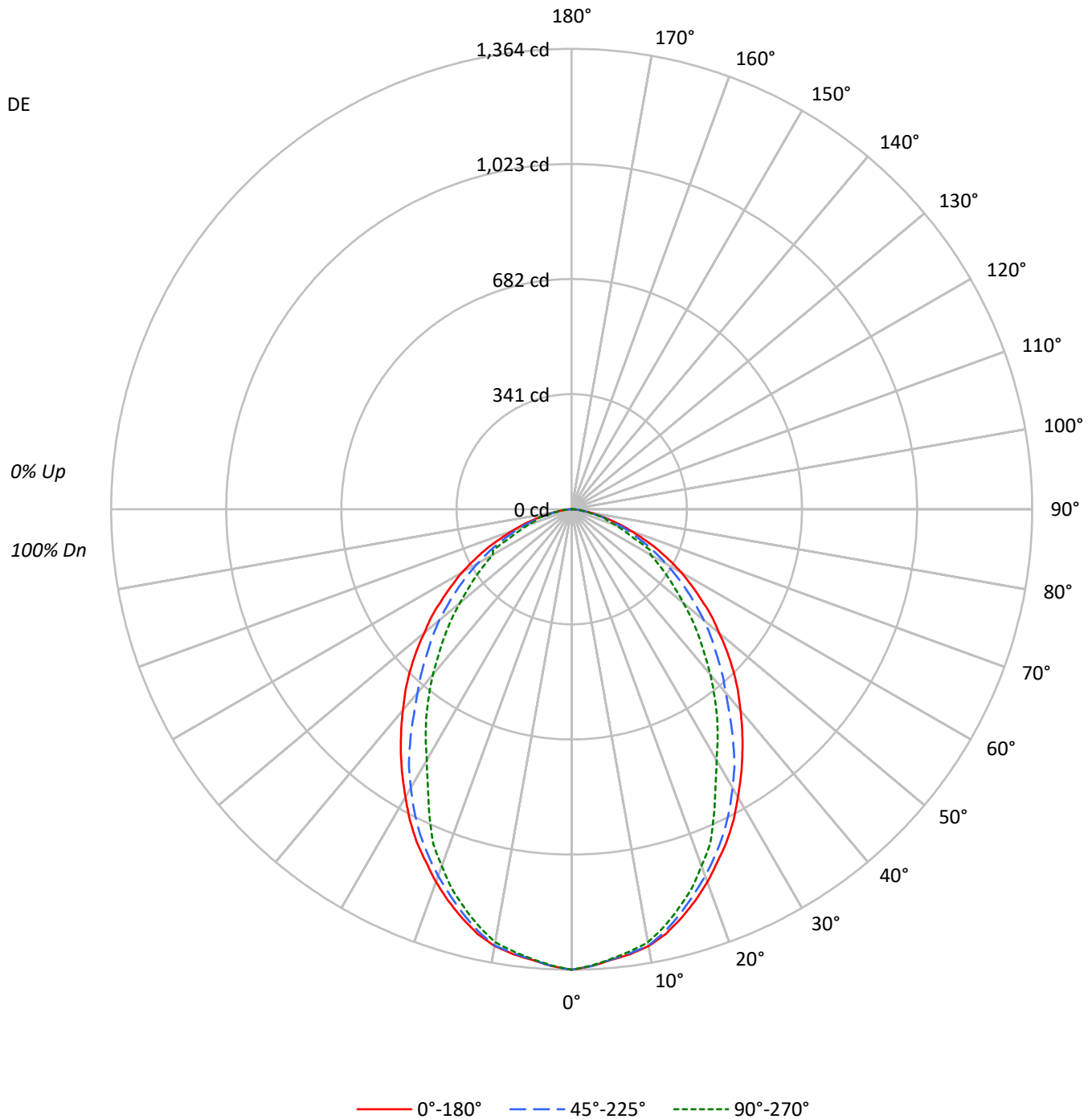
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3671	3671	3671
5°	3621	3617	3612
10°	3590	3585	3559
15°	3493	3458	3409
20°	3365	3310	3220
25°	3226	3156	2959
30°	3058	2960	2666
35°	2896	2735	2466
40°	2731	2493	2244
45°	2575	2305	2028
50°	2383	2139	1809
55°	2205	1939	1620
60°	2020	1731	1452
65°	1777	1516	1286
70°	1464	1327	1092
75°	1164	1017	1066
80°	783	733	685
85°	488	584	682

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2575 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.0	4.7
10°-20°	348.5	13.0
20°-30°	482.5	18.0
30°-40°	514.4	19.2
40°-50°	469.3	17.5
50°-60°	367.7	13.7
60°-70°	239.6	8.9
70°-80°	106.2	4.0
80°-90°	22.8	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°	957.9	35.8
0°-40°	1472.4	55.0
0°-60°	2309.4	86.2
0°-90°	2678.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2678.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1364	1364	1364	1364	1364	
5°	1340	1339	1339	1337	1337	127
15°	1254	1254	1241	1228	1224	352
25°	1087	1080	1063	1025	997	499
35°	882	875	833	770	751	551
45°	676	662	606	555	533	521
55°	470	456	413	364	345	422
65°	279	263	238	243	202	275
75°	112	104	98	93	102	120
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1364.1	1364.1	1364.1	1364.1	1364.1
2.5°	1354.7	1354.7	1354.7	1353.1	1353.1
5°	1340.5	1338.9	1338.9	1337.3	1337.3
7.5°	1329.4	1327.9	1326.3	1324.7	1321.6
10°	1313.7	1313.7	1312.1	1304.2	1302.6
12.5°	1288.4	1286.9	1280.6	1269.5	1266.4
15°	1253.7	1253.7	1241.1	1228.5	1223.8
17.5°	1215.9	1214.3	1198.5	1185.9	1179.6
20°	1174.9	1171.7	1156.0	1135.5	1124.4
22.5°	1129.2	1129.2	1110.2	1083.4	1072.4
25°	1086.6	1080.3	1062.9	1025.1	996.7
27.5°	1037.7	1028.2	1009.3	955.7	922.6
30°	984.1	979.3	952.5	883.1	857.9
32.5°	933.6	925.7	897.3	824.8	804.3
35°	881.6	875.3	832.7	769.6	750.7
37.5°	829.5	821.6	768.0	717.6	693.9
40°	777.5	768.0	709.7	663.9	638.7
42.5°	728.6	716.0	659.2	610.3	581.9
45°	676.5	662.4	605.6	555.1	533.0
47.5°	624.5	611.9	559.8	507.8	482.6
50°	569.3	558.3	511.0	458.9	432.1
52.5°	523.6	506.2	460.5	408.5	386.4
55°	470.0	455.8	413.2	364.3	345.4
57.5°	421.1	406.9	367.4	321.7	305.9
60°	375.3	354.8	321.7	282.3	269.7
62.5°	324.9	309.1	280.7	247.6	263.4
65°	279.1	263.4	238.1	242.9	201.9
67.5°	228.7	220.8	198.7	176.6	170.3
70°	186.1	176.6	168.7	145.1	138.8
72.5°	148.2	138.8	127.7	115.1	110.4
75°	112.0	104.1	97.8	93.0	102.5
77.5°	77.3	74.1	69.4	64.7	63.1
80°	50.5	48.9	47.3	45.7	44.2
82.5°	30.0	30.0	30.0	30.0	30.0
85°	15.8	17.3	18.9	20.5	22.1
87.5°	9.5	9.5	11.0	12.6	14.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)