

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: P560449

Luminaire Tested: FSR-12-2-LD4-2LO-40-UNV-81-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560449
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-12-2-LD4-2LO-40-UNV-81-84-EDD
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2186.0 lumens
Efficiency: N/A
Efficacy: 93.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

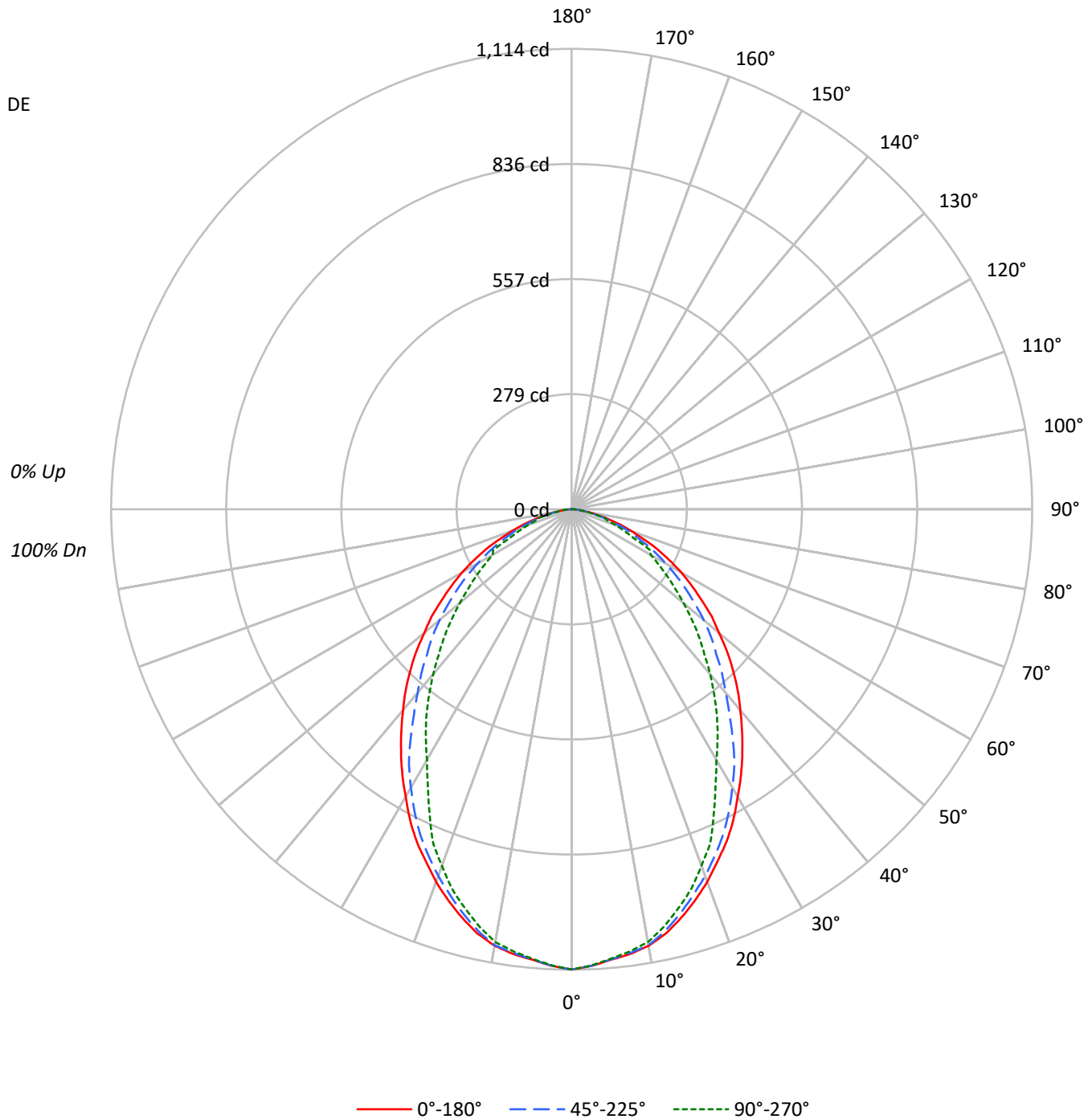
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	5993	5993	5993
5°	5911	5904	5897
10°	5860	5853	5811
15°	5702	5645	5566
20°	5493	5404	5257
25°	5267	5152	4831
30°	4992	4832	4352
35°	4728	4466	4026
40°	4458	4070	3663
45°	4204	3762	3312
50°	3891	3492	2953
55°	3599	3165	2645
60°	3298	2827	2369
65°	2902	2476	2099
70°	2390	2167	1783
75°	1901	1659	1740
80°	1277	1196	1116
85°	797	951	1112

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4204 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.7	4.7
10°-20°	284.5	13.0
20°-30°	393.8	18.0
30°-40°	419.9	19.2
40°-50°	383.1	17.5
50°-60°	300.1	13.7
60°-70°	195.6	8.9
70°-80°	86.7	4.0
80°-90°	18.6	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°	781.9	35.8
0°-40°	1201.9	55.0
0°-60°	1885.1	86.2
0°-90°	2186.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2186.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1094	1093	1093	1092	1092	104
15°	1023	1023	1013	1003	999	288
25°	887	882	868	837	814	407
35°	720	714	680	628	613	450
45°	552	541	494	453	435	425
55°	384	372	337	297	282	344
65°	228	215	194	198	165	225
75°	91	85	80	76	84	98
85°	13	14	15	17	18	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	<i>1113.5</i>	<i>1113.5</i>	<i>1113.5</i>	<i>1113.5</i>	<i>1113.5</i>
2.5°	<i>1105.8</i>	1105.8	1105.8	1104.5	1104.5
5°	<i>1094.2</i>	1092.9	1092.9	1091.6	1091.6
7.5°	<i>1085.2</i>	1083.9	1082.6	1081.3	1078.8
10°	<i>1072.3</i>	1072.3	1071.0	1064.6	1063.3
12.5°	<i>1051.7</i>	1050.4	1045.3	1036.3	1033.7
15°	<i>1023.4</i>	1023.4	1013.1	1002.8	998.9
17.5°	<i>992.5</i>	991.2	978.4	968.1	962.9
20°	<i>959.0</i>	956.5	943.6	926.9	917.8
22.5°	<i>921.7</i>	921.7	906.3	884.4	875.4
25°	<i>887.0</i>	881.8	867.6	836.7	813.6
27.5°	<i>847.0</i>	839.3	823.9	780.1	753.1
30°	<i>803.3</i>	799.4	777.5	720.9	700.3
32.5°	<i>762.1</i>	755.6	732.5	673.3	656.5
35°	<i>719.6</i>	714.5	679.7	628.2	612.8
37.5°	<i>677.1</i>	670.7	626.9	585.7	566.4
40°	<i>634.6</i>	626.9	579.3	542.0	521.4
42.5°	<i>594.7</i>	584.4	538.1	498.2	475.0
45°	<i>552.3</i>	540.7	494.3	453.1	435.1
47.5°	<i>509.8</i>	499.5	457.0	414.5	393.9
50°	<i>464.7</i>	455.7	417.1	374.6	352.7
52.5°	<i>427.4</i>	413.2	375.9	333.4	315.4
55°	<i>383.6</i>	372.0	337.3	297.4	281.9
57.5°	<i>343.7</i>	332.1	299.9	262.6	249.7
60°	<i>306.4</i>	289.6	262.6	230.4	220.1
62.5°	<i>265.2</i>	252.3	229.1	202.1	215.0
65°	<i>227.9</i>	215.0	194.4	198.2	164.8
67.5°	<i>186.7</i>	180.2	162.2	144.2	139.0
70°	<i>151.9</i>	144.2	137.7	118.4	113.3
72.5°	<i>121.0</i>	113.3	104.3	94.0	90.1
75°	<i>91.4</i>	85.0	79.8	76.0	83.7
77.5°	<i>63.1</i>	60.5	56.6	52.8	51.5
80°	<i>41.2</i>	39.9	38.6	37.3	36.0
82.5°	<i>24.5</i>	24.5	24.5	24.5	24.5
85°	<i>12.9</i>	14.2	15.4	16.7	18.0
87.5°	<i>7.7</i>	7.7	9.0	10.3	11.6
90°	<i>0.0</i>	0.0	0.0	0.0	0.0

(END OF REPORT)