

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: P562185

Luminaire Tested: FSR-24-4-LD4-1LO-40-UNV-81-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562185
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-LD4-1LO-40-UNV-81-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

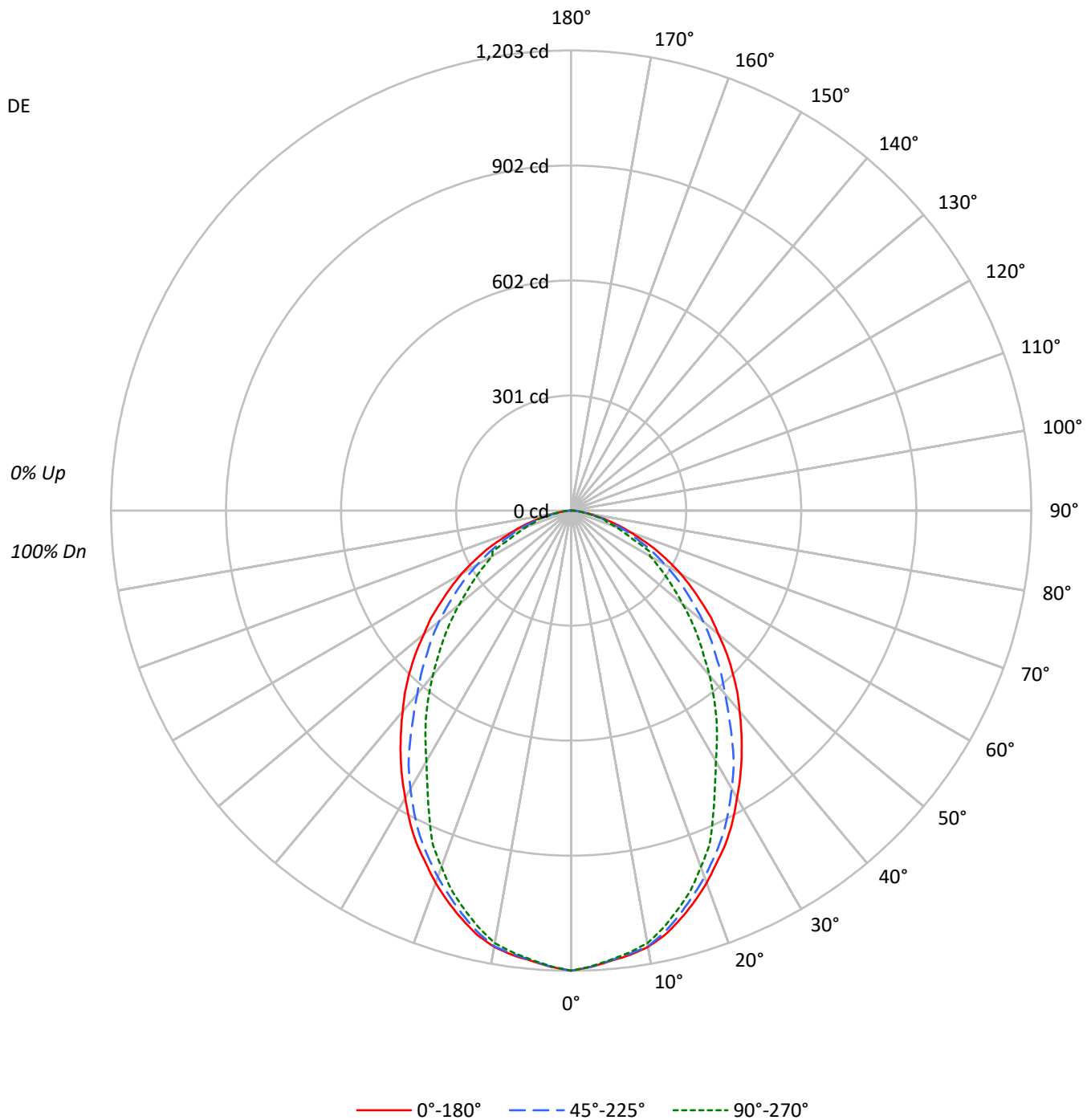
Lumens per Lamp: N/A
Luminaire Lumens: 2361.0 lumens
Efficiency: N/A
Efficacy: 100.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	1618	1618	1618
5°	1596	1594	1592
10°	1582	1580	1569
15°	1540	1524	1503
20°	1483	1459	1419
25°	1422	1391	1305
30°	1348	1305	1175
35°	1277	1206	1087
40°	1204	1099	989
45°	1135	1016	894
50°	1051	943	798
55°	972	855	714
60°	890	763	640
65°	784	668	567
70°	646	585	482
75°	513	448	470
80°	345	323	301
85°	215	258	301

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1135 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.0	4.7
10°-20°	307.2	13.0
20°-30°	425.4	18.0
30°-40°	453.6	19.2
40°-50°	413.8	17.5
50°-60°	324.2	13.7
60°-70°	211.3	8.9
70°-80°	93.6	4.0
80°-90°	20.1	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°	844.5	35.8
0°-40°	1298.1	55.0
0°-60°	2036.0	86.2
0°-90°	2361.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2361.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1203	1203	1203	1203	1203	
5°	1182	1180	1180	1179	1179	112
15°	1105	1105	1094	1083	1079	311
25°	958	952	937	904	879	440
35°	777	772	734	678	662	486
45°	596	584	534	489	470	459
55°	414	402	364	321	304	372
65°	246	232	210	214	178	243
75°	99	92	86	82	90	106
85°	14	15	17	18	20	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1202.7	1202.7	1202.7	1202.7	1202.7
2.5°	1194.3	1194.3	1194.3	1192.9	1192.9
5°	1181.8	1180.4	1180.4	1179.0	1179.0
7.5°	1172.1	1170.7	1169.3	1167.9	1165.1
10°	1158.2	1158.2	1156.8	1149.8	1148.4
12.5°	1135.9	1134.5	1129.0	1119.2	1116.5
15°	1105.3	1105.3	1094.2	1083.1	1078.9
17.5°	1072.0	1070.6	1056.7	1045.6	1040.0
20°	1035.8	1033.0	1019.1	1001.1	991.3
22.5°	995.5	995.5	978.8	955.2	945.4
25°	958.0	952.4	937.1	903.7	878.7
27.5°	914.9	906.5	889.8	842.6	813.4
30°	867.6	863.4	839.8	778.6	756.4
32.5°	823.1	816.1	791.1	727.2	709.1
35°	777.2	771.7	734.1	678.5	661.8
37.5°	731.3	724.4	677.1	632.6	611.8
40°	685.4	677.1	625.7	585.3	563.1
42.5°	642.3	631.2	581.2	538.1	513.0
45°	596.5	584.0	533.9	489.4	469.9
47.5°	550.6	539.5	493.6	447.7	425.5
50°	501.9	492.2	450.5	404.6	381.0
52.5°	461.6	446.3	406.0	360.1	340.6
55°	414.3	401.8	364.3	321.2	304.5
57.5°	371.2	358.7	324.0	283.6	269.7
60°	330.9	312.8	283.6	248.9	237.8
62.5°	286.4	272.5	247.5	218.3	232.2
65°	246.1	232.2	209.9	214.1	178.0
67.5°	201.6	194.7	175.2	155.7	150.2
70°	164.1	155.7	148.8	127.9	122.4
72.5°	130.7	122.4	112.6	101.5	97.3
75°	98.7	91.8	86.2	82.0	90.4
77.5°	68.1	65.3	61.2	57.0	55.6
80°	44.5	43.1	41.7	40.3	38.9
82.5°	26.4	26.4	26.4	26.4	26.4
85°	13.9	15.3	16.7	18.1	19.5
87.5°	8.3	8.3	9.7	11.1	12.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)