

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: P562179

Luminaire Tested: FSR-24-4-LD4-1LO-40-UNV-81-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562179
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-81-85-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

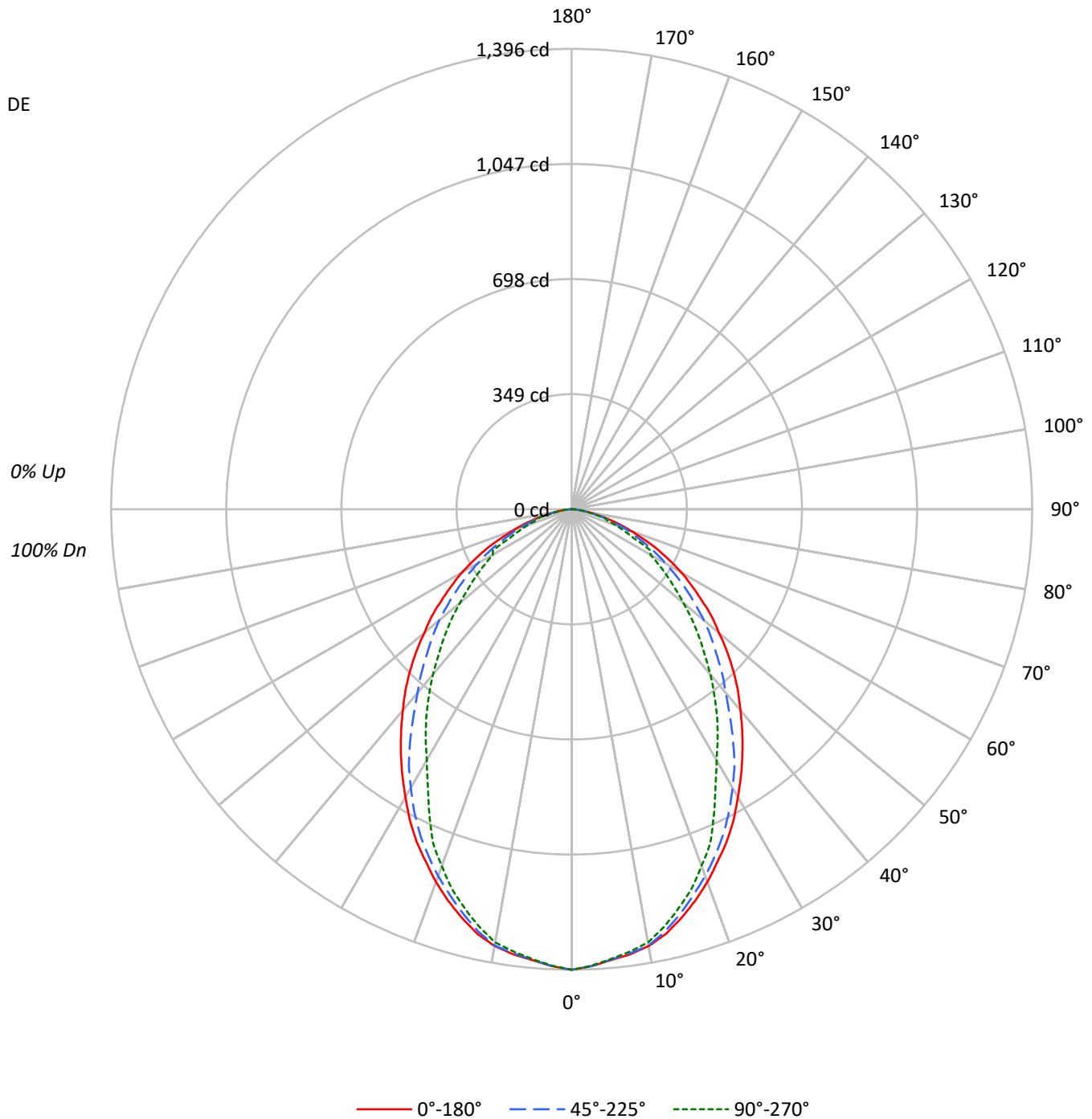
Lumens per Lamp: N/A
Luminaire Lumens: 2741.0 lumens
Efficiency: N/A
Efficacy: 117.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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																		
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	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°	1879	1879	1879
5°	1853	1851	1849
10°	1837	1835	1822
15°	1787	1769	1745
20°	1722	1694	1648
25°	1651	1615	1514
30°	1565	1515	1364
35°	1482	1400	1262
40°	1398	1276	1148
45°	1318	1179	1038
50°	1220	1095	926
55°	1128	992	829
60°	1034	886	743
65°	910	776	658
70°	749	679	559
75°	596	520	545
80°	401	375	350
85°	249	299	349

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1318 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.0	4.7
10°-20°	356.7	13.0
20°-30°	493.8	18.0
30°-40°	526.6	19.2
40°-50°	480.4	17.5
50°-60°	376.3	13.7
60°-70°	245.3	8.9
70°-80°	108.7	4.0
80°-90°	23.3	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°	980.5	35.8
0°-40°	1507.0	55.0
0°-60°	2363.7	86.2
0°-90°	2741.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2741.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1396	1396	1396	1396	1396	
5°	1372	1370	1370	1369	1369	130
15°	1283	1283	1270	1257	1253	361
25°	1112	1106	1088	1049	1020	511
35°	902	896	852	788	768	564
45°	692	678	620	568	546	533
55°	481	466	423	373	354	431
65°	286	270	244	249	207	282
75°	115	106	100	95	105	123
85°	16	18	19	21	23	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1396.2	1396.2	1396.2	1396.2	1396.2
2.5°	1386.5	1386.5	1386.5	1384.9	1384.9
5°	1372.0	1370.4	1370.4	1368.8	1368.8
7.5°	1360.7	1359.1	1357.5	1355.9	1352.6
10°	1344.6	1344.6	1343.0	1334.9	1333.3
12.5°	1318.8	1317.1	1310.7	1299.4	1296.2
15°	1283.2	1283.2	1270.3	1257.4	1252.6
17.5°	1244.5	1242.9	1226.7	1213.8	1207.4
20°	1202.5	1199.3	1183.2	1162.2	1150.9
22.5°	1155.7	1155.7	1136.4	1108.9	1097.6
25°	1112.1	1105.7	1087.9	1049.2	1020.1
27.5°	1062.1	1052.4	1033.0	978.2	944.3
30°	1007.2	1002.4	974.9	903.9	878.1
32.5°	955.6	947.5	918.4	844.2	823.2
35°	902.3	895.8	852.3	787.7	768.3
37.5°	849.0	841.0	786.1	734.4	710.2
40°	795.8	786.1	726.4	679.6	653.7
42.5°	745.7	732.8	674.7	624.7	595.6
45°	692.5	677.9	619.8	568.2	545.6
47.5°	639.2	626.3	573.0	519.8	493.9
50°	582.7	571.4	523.0	469.7	442.3
52.5°	535.9	518.1	471.3	418.1	395.5
55°	481.0	466.5	422.9	372.9	353.5
57.5°	431.0	416.4	376.1	329.3	313.1
60°	384.2	363.2	329.3	288.9	276.0
62.5°	332.5	316.4	287.3	253.4	269.6
65°	285.7	269.6	243.7	248.6	206.6
67.5°	234.0	226.0	203.4	180.8	174.3
70°	190.5	180.8	172.7	148.5	142.0
72.5°	151.7	142.0	130.7	117.8	113.0
75°	114.6	106.5	100.1	95.2	104.9
77.5°	79.1	75.9	71.0	66.2	64.6
80°	51.7	50.0	48.4	46.8	45.2
82.5°	30.7	30.7	30.7	30.7	30.7
85°	16.1	17.8	19.4	21.0	22.6
87.5°	9.7	9.7	11.3	12.9	14.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)