

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: P562165

Luminaire Tested: FSR-24-4-LD4-1LO-40-UNV-80-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562165
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-80-86-EDD
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

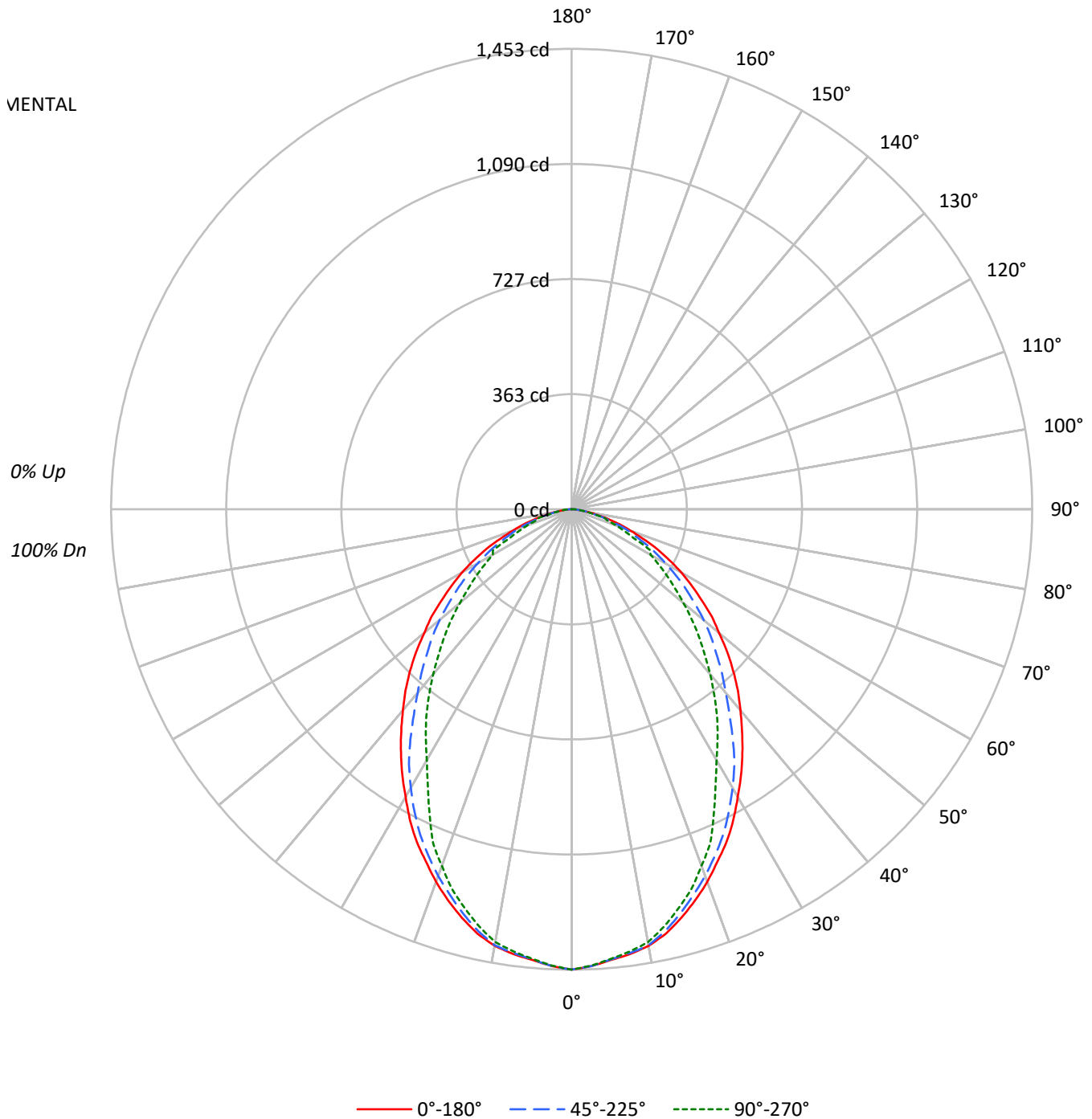
Lumens per Lamp: N/A
Luminaire Lumens: 2852.0 lumens
Efficiency: N/A
Efficacy: 121.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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	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°	1955	1955	1955
5°	1928	1926	1924
10°	1911	1909	1895
15°	1860	1841	1815
20°	1792	1763	1715
25°	1718	1681	1576
30°	1628	1576	1420
35°	1542	1457	1313
40°	1454	1327	1195
45°	1371	1227	1080
50°	1269	1139	963
55°	1174	1032	863
60°	1076	922	773
65°	947	807	684
70°	780	707	581
75°	620	541	568
80°	416	391	364
85°	259	312	363

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1371 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.2	4.7
10°-20°	371.1	13.0
20°-30°	513.8	18.0
30°-40°	547.9	19.2
40°-50°	499.8	17.5
50°-60°	391.6	13.7
60°-70°	255.2	8.9
70°-80°	113.1	4.0
80°-90°	24.3	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°	1020.2	35.8
0°-40°	1568.1	55.0
0°-60°	2459.4	86.2
0°-90°	2852.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2852.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1453	1453	1453	1453	1453	
5°	1428	1426	1426	1424	1424	136
15°	1335	1335	1322	1308	1303	375
25°	1157	1150	1132	1092	1061	531
35°	939	932	887	820	799	587
45°	720	705	645	591	568	555
55°	500	485	440	388	368	449
65°	297	280	254	259	215	293
75°	119	111	104	99	109	128
85°	17	18	20	22	24	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1452.8	1452.8	1452.8	1452.8	1452.8
2.5°	1442.7	1442.7	1442.7	1441.0	1441.0
5°	1427.6	1425.9	1425.9	1424.2	1424.2
7.5°	1415.8	1414.1	1412.5	1410.8	1407.4
10°	1399.0	1399.0	1397.3	1388.9	1387.3
12.5°	1372.2	1370.5	1363.8	1352.0	1348.6
15°	1335.2	1335.2	1321.8	1308.3	1303.3
17.5°	1294.9	1293.2	1276.4	1263.0	1256.3
20°	1251.2	1247.9	1231.1	1209.2	1197.5
22.5°	1202.5	1202.5	1182.4	1153.8	1142.1
25°	1157.2	1150.5	1132.0	1091.7	1061.4
27.5°	1105.1	1095.0	1074.9	1017.8	982.5
30°	1048.0	1043.0	1014.4	940.5	913.7
32.5°	994.3	985.9	955.6	878.4	856.5
35°	938.8	932.1	886.8	819.6	799.4
37.5°	883.4	875.0	817.9	764.2	739.0
40°	828.0	817.9	755.8	707.1	680.2
42.5°	775.9	762.5	702.0	650.0	619.7
45°	720.5	705.4	644.9	591.2	567.7
47.5°	665.1	651.6	596.2	540.8	513.9
50°	606.3	594.5	544.2	488.7	460.2
52.5°	557.6	539.1	490.4	435.0	411.5
55°	500.5	485.4	440.0	388.0	367.8
57.5°	448.4	433.3	391.3	342.6	325.8
60°	399.7	377.9	342.6	300.6	287.2
62.5°	346.0	329.2	299.0	263.7	280.5
65°	297.3	280.5	253.6	258.6	215.0
67.5°	243.5	235.1	211.6	188.1	181.4
70°	198.2	188.1	179.7	154.5	147.8
72.5°	157.9	147.8	136.0	122.6	117.6
75°	119.2	110.8	104.1	99.1	109.2
77.5°	82.3	78.9	73.9	68.9	67.2
80°	53.7	52.1	50.4	48.7	47.0
82.5°	31.9	31.9	31.9	31.9	31.9
85°	16.8	18.5	20.2	21.8	23.5
87.5°	10.1	10.1	11.8	13.4	15.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)