

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: P562310

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562310
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-LD4-1STD-35-UNV-81-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2909.0 lumens
Efficiency: N/A
Efficacy: 87.4 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

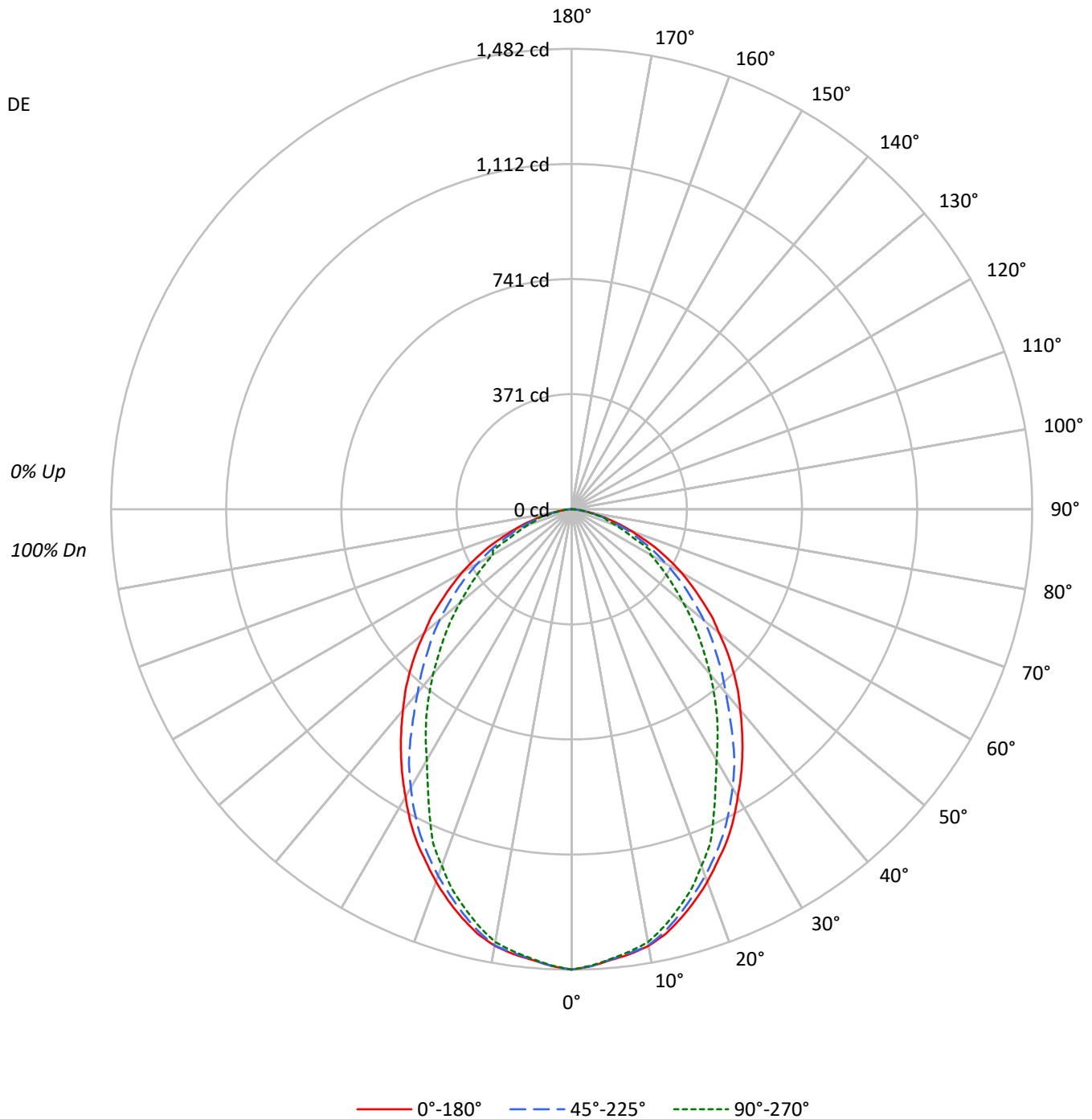
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	1994	1994	1994
5°	1967	1964	1962
10°	1950	1947	1933
15°	1897	1878	1852
20°	1827	1798	1749
25°	1752	1714	1607
30°	1661	1608	1448
35°	1573	1486	1339
40°	1483	1354	1219
45°	1398	1252	1102
50°	1294	1162	983
55°	1198	1053	880
60°	1097	940	788
65°	965	824	698
70°	795	721	593
75°	632	552	579
80°	425	398	372
85°	264	318	371

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1398 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.9	4.7
10°-20°	378.6	13.0
20°-30°	524.1	18.0
30°-40°	558.8	19.2
40°-50°	509.8	17.5
50°-60°	399.4	13.7
60°-70°	260.3	8.9
70°-80°	115.3	4.0
80°-90°	24.8	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°	1040.6	35.8
0°-40°	1599.4	55.0
0°-60°	2508.6	86.2
0°-90°	2909.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2909.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1482	1482	1482	1482	1482	
5°	1456	1454	1454	1453	1453	138
15°	1362	1362	1348	1334	1329	383
25°	1180	1174	1155	1114	1083	542
35°	958	951	904	836	815	599
45°	735	720	658	603	579	566
55°	510	495	449	396	375	458
65°	303	286	259	264	219	299
75°	122	113	106	101	111	130
85°	17	19	21	22	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1481.8	1481.8	1481.8	1481.8	1481.8
2.5°	1471.5	1471.5	1471.5	1469.8	1469.8
5°	1456.1	1454.4	1454.4	1452.7	1452.7
7.5°	1444.1	1442.4	1440.7	1439.0	1435.6
10°	1427.0	1427.0	1425.3	1416.7	1415.0
12.5°	1399.6	1397.9	1391.0	1379.0	1375.6
15°	1361.9	1361.9	1348.2	1334.5	1329.3
17.5°	1320.8	1319.1	1301.9	1288.2	1281.4
20°	1276.2	1272.8	1255.7	1233.4	1221.4
22.5°	1226.6	1226.6	1206.0	1176.9	1164.9
25°	1180.3	1173.5	1154.6	1113.5	1082.7
27.5°	1127.2	1116.9	1096.4	1038.1	1002.1
30°	1069.0	1063.8	1034.7	959.3	931.9
32.5°	1014.1	1005.6	974.7	895.9	873.7
35°	957.6	950.8	904.5	836.0	815.4
37.5°	901.1	892.5	834.3	779.4	753.8
40°	844.5	834.3	770.9	721.2	693.8
42.5°	791.4	777.7	716.1	663.0	632.1
45°	734.9	719.5	657.8	603.0	579.0
47.5°	678.4	664.7	608.1	551.6	524.2
50°	618.4	606.4	555.0	498.5	469.4
52.5°	568.7	549.9	500.2	443.7	419.7
55°	510.5	495.1	448.8	395.7	375.2
57.5°	457.4	442.0	399.1	349.5	332.3
60°	407.7	385.4	349.5	306.6	292.9
62.5°	352.9	335.8	304.9	269.0	286.1
65°	303.2	286.1	258.7	263.8	219.3
67.5°	248.4	239.8	215.8	191.9	185.0
70°	202.1	191.9	183.3	157.6	150.8
72.5°	161.0	150.8	138.8	125.1	119.9
75°	121.6	113.1	106.2	101.1	111.3
77.5°	83.9	80.5	75.4	70.2	68.5
80°	54.8	53.1	51.4	49.7	48.0
82.5°	32.5	32.5	32.5	32.5	32.5
85°	17.1	18.8	20.6	22.3	24.0
87.5°	10.3	10.3	12.0	13.7	15.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)