

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: P561245

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-82-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561245
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-12-4-LD4-1STD-40-UNV-82-96-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3092.0 lumens
Efficiency: N/A
Efficacy: 92.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

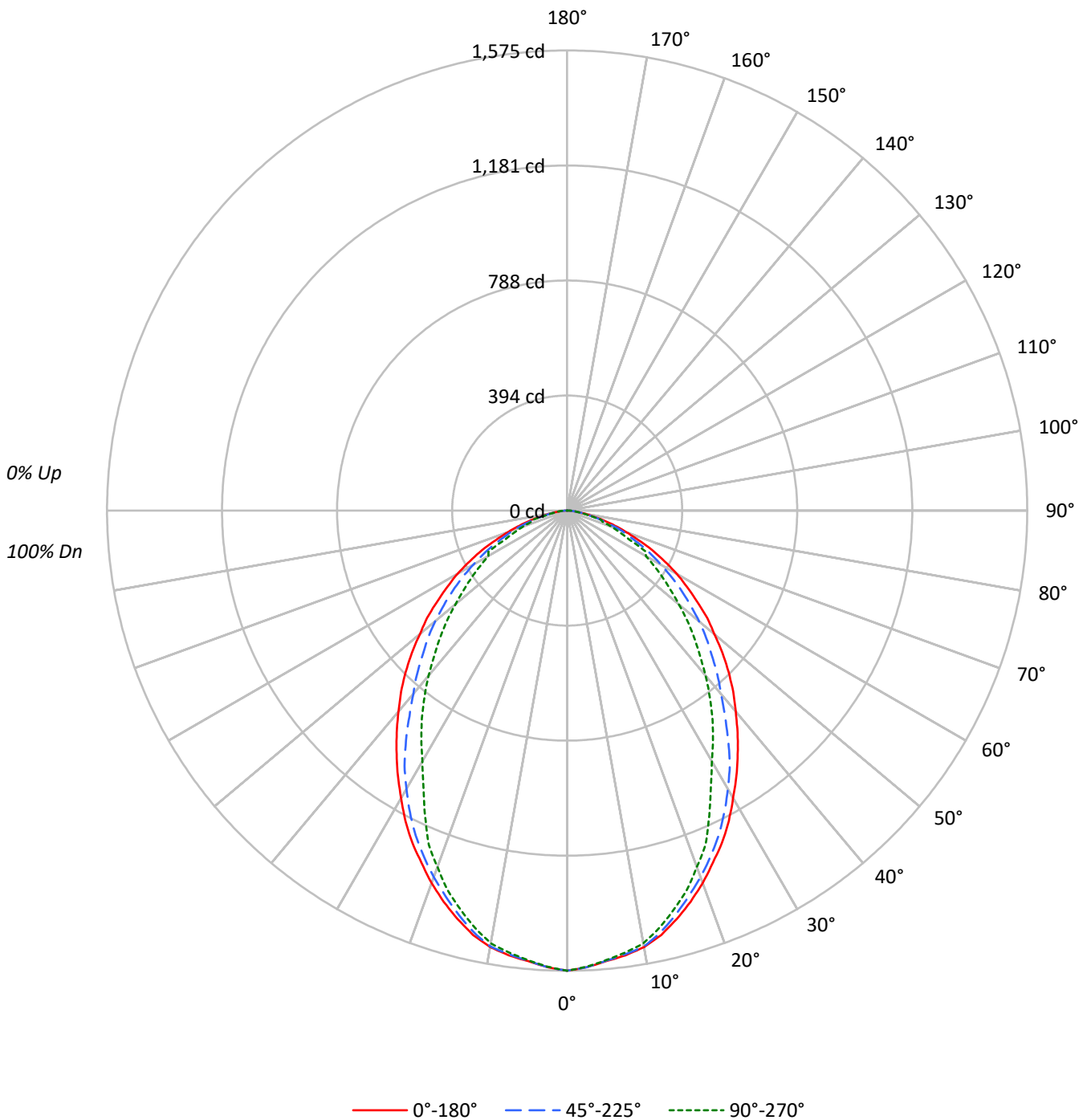
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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				
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°	4238	4238	4238
5°	4181	4176	4171
10°	4145	4139	4110
15°	4033	3992	3936
20°	3885	3822	3718
25°	3725	3644	3417
30°	3530	3417	3078
35°	3344	3158	2847
40°	3153	2878	2590
45°	2973	2661	2342
50°	2752	2470	2089
55°	2546	2238	1871
60°	2333	1999	1676
65°	2052	1750	1484
70°	1691	1533	1260
75°	1344	1174	1231
80°	903	846	790
85°	562	676	787

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2973 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.6	4.7
10°-20°	402.4	13.0
20°-30°	557.1	18.0
30°-40°	594.0	19.2
40°-50°	541.9	17.5
50°-60°	424.5	13.7
60°-70°	276.7	8.9
70°-80°	122.6	4.0
80°-90°	26.3	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°	1106.0	35.8
0°-40°	1700.0	55.0
0°-60°	2666.4	86.2
0°-90°	3092.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3092.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1575	1575	1575	1575	1575	
5°	1548	1546	1546	1544	1544	147
15°	1448	1448	1433	1418	1413	407
25°	1255	1247	1227	1184	1151	576
35°	1018	1011	961	889	867	636
45°	781	765	699	641	615	602
55°	543	526	477	421	399	487
65°	322	304	275	280	233	318
75°	129	120	113	107	118	139
85°	18	20	22	24	26	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1575.0	1575.0	1575.0	1575.0	1575.0
2.5°	1564.1	1564.1	1564.1	1562.3	1562.3
5°	1547.7	1545.9	1545.9	1544.1	1544.1
7.5°	1535.0	1533.1	1531.3	1529.5	1525.9
10°	1516.8	1516.8	1514.9	1505.8	1504.0
12.5°	1487.6	1485.8	1478.5	1465.8	1462.1
15°	1447.6	1447.6	1433.0	1418.4	1413.0
17.5°	1403.9	1402.0	1383.8	1369.3	1362.0
20°	1356.5	1352.9	1334.7	1311.0	1298.3
22.5°	1303.7	1303.7	1281.9	1250.9	1238.2
25°	1254.6	1247.3	1227.2	1183.5	1150.8
27.5°	1198.1	1187.2	1165.3	1103.4	1065.2
30°	1136.2	1130.7	1099.8	1019.7	990.5
32.5°	1077.9	1068.8	1036.1	952.3	928.6
35°	1017.8	1010.6	961.4	888.6	866.7
37.5°	957.8	948.7	886.7	828.5	801.2
40°	897.7	886.7	819.4	766.6	737.4
42.5°	841.2	826.7	761.1	704.7	671.9
45°	781.1	764.8	699.2	640.9	615.4
47.5°	721.1	706.5	646.4	586.3	557.2
50°	657.3	644.6	590.0	529.9	498.9
52.5°	604.5	584.5	531.7	471.6	446.1
55°	542.6	526.2	477.1	420.6	398.8
57.5°	486.2	469.8	424.3	371.5	353.2
60°	433.4	409.7	371.5	325.9	311.4
62.5°	375.1	356.9	324.1	285.9	304.1
65°	322.3	304.1	274.9	280.4	233.1
67.5°	264.0	254.9	229.4	203.9	196.7
70°	214.9	203.9	194.8	167.5	160.2
72.5°	171.2	160.2	147.5	132.9	127.5
75°	129.3	120.2	112.9	107.4	118.4
77.5°	89.2	85.6	80.1	74.7	72.8
80°	58.3	56.4	54.6	52.8	51.0
82.5°	34.6	34.6	34.6	34.6	34.6
85°	18.2	20.0	21.9	23.7	25.5
87.5°	10.9	10.9	12.7	14.6	16.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)