

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P310087

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CA08-W2A-U-3500K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P310087
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-45HE-UNV-L82765-RDP-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (336) 3500K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2693.0 lumens
Efficiency: N/A
Efficacy: 79.2 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

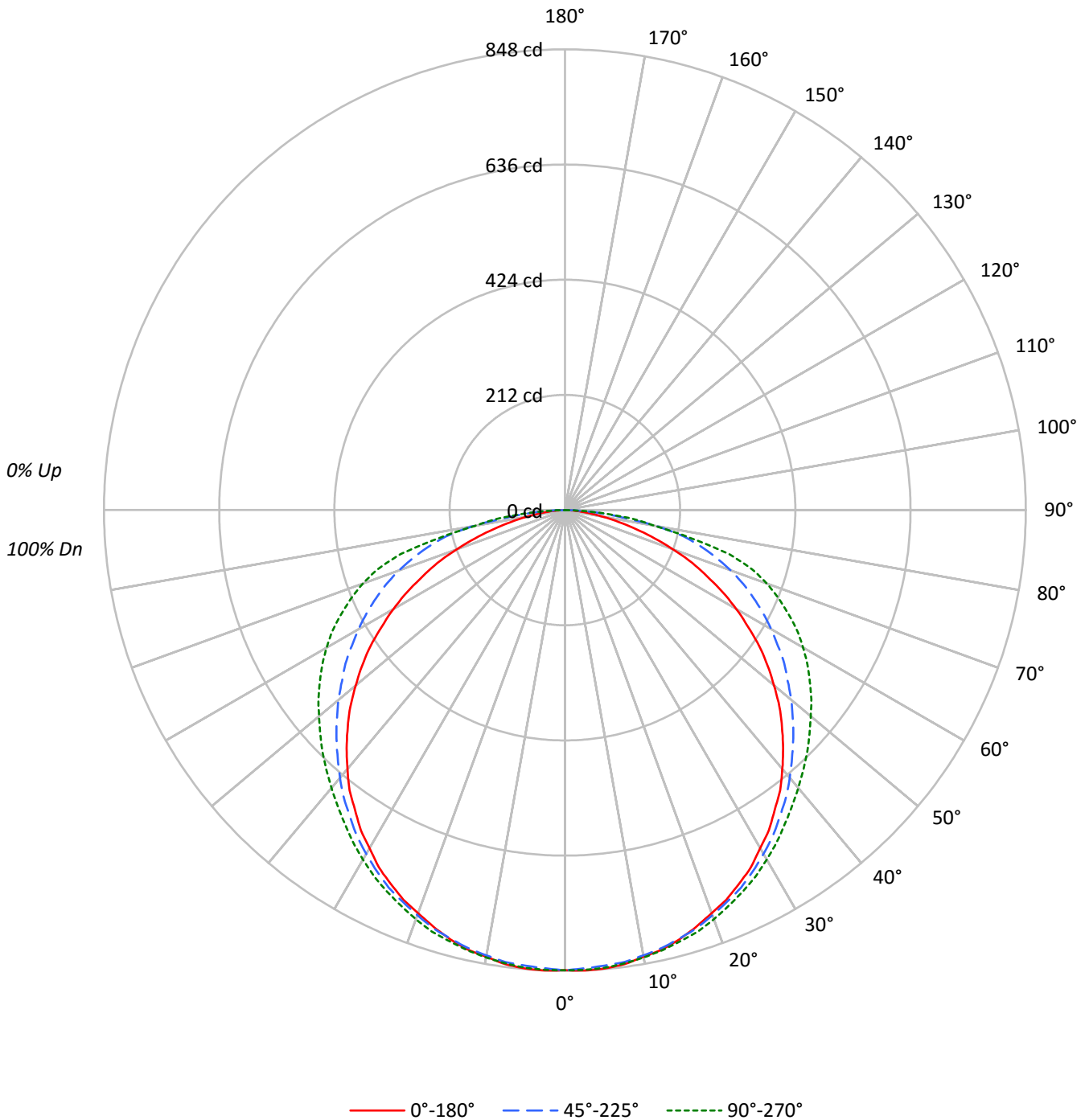
Input Watts (W): 34
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1139	1139	1139
5°	1144	1137	1142
10°	1141	1137	1142
15°	1139	1137	1144
20°	1130	1136	1148
25°	1126	1138	1150
30°	1116	1135	1154
35°	1106	1132	1158
40°	1093	1131	1173
45°	1075	1131	1200
50°	1051	1138	1236
55°	1025	1156	1291
60°	981	1179	1362
65°	918	1221	1446
70°	836	1277	1555
75°	708	1347	1625
80°	559	1356	1314
85°	412	1031	1155



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.3	3.0
10°-20°	231.2	8.6
20°-30°	353.6	13.1
30°-40°	432.2	16.0
40°-50°	460.6	17.1
50°-60°	440.4	16.4
60°-70°	373.1	13.9
70°-80°	250.8	9.3
80°-90°	70.7	2.6
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°	665.1	24.7
0°-40°	1097.3	40.7
0°-60°	1998.4	74.2
0°-90°	2693.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2693.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	847	847	847	847	847	
5°	847	846	842	846	846	80
15°	818	818	816	823	822	230
25°	759	761	767	773	775	350
35°	673	679	689	703	705	422
45°	565	574	594	620	630	436
55°	437	453	493	532	550	389
65°	288	318	383	434	454	286
75°	136	186	259	303	313	146
85°	27	55	67	72	75	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	846.9	846.9	846.9	846.9	846.9
2.5°	848.2	848.2	844.2	846.9	846.9
5°	846.9	845.5	841.5	845.5	845.5
7.5°	842.9	841.5	838.9	842.9	841.5
10°	834.8	834.8	832.2	836.2	836.2
12.5°	828.2	826.8	825.5	830.8	829.5
15°	817.5	817.5	816.1	822.8	821.5
17.5°	804.1	805.5	806.8	812.1	813.5
20°	789.4	792.1	793.4	801.5	801.5
22.5°	776.1	777.4	780.1	788.1	788.1
25°	758.7	761.4	766.7	773.4	774.7
27.5°	741.3	742.7	749.4	758.7	760.0
30°	718.6	722.6	730.7	741.3	742.7
32.5°	698.6	702.6	712.0	722.6	725.3
35°	673.2	678.6	689.3	702.6	705.3
37.5°	650.5	654.5	667.9	682.6	686.6
40°	622.5	630.5	643.8	661.2	667.9
42.5°	594.4	602.4	618.5	641.2	649.2
45°	565.0	574.4	594.4	619.8	630.5
47.5°	535.6	546.3	569.0	598.4	610.4
50°	502.2	515.6	543.7	577.0	590.4
52.5°	470.2	486.2	516.9	554.3	571.7
55°	436.8	452.8	492.9	531.6	550.3
57.5°	399.4	420.8	464.8	508.9	529.0
60°	364.7	384.7	438.1	486.2	506.3
62.5°	327.3	354.0	411.4	462.2	482.2
65°	288.5	317.9	383.4	434.1	454.2
67.5°	253.8	285.9	355.3	406.1	426.1
70°	212.4	252.5	324.6	375.3	395.4
72.5°	173.6	217.7	292.5	342.0	360.7
75°	136.2	185.7	259.1	303.2	312.6
77.5°	101.5	153.6	224.4	243.1	236.4
80°	72.1	122.9	175.0	165.6	169.6
82.5°	46.8	93.5	108.2	122.9	126.9
85°	26.7	54.8	66.8	72.1	74.8
87.5°	12.0	20.0	26.7	26.7	25.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)