

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: P309410

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CA08-W2A-U-2700K**

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: P309410
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
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-HRP-CA08-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 2700K 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: 2854.0 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

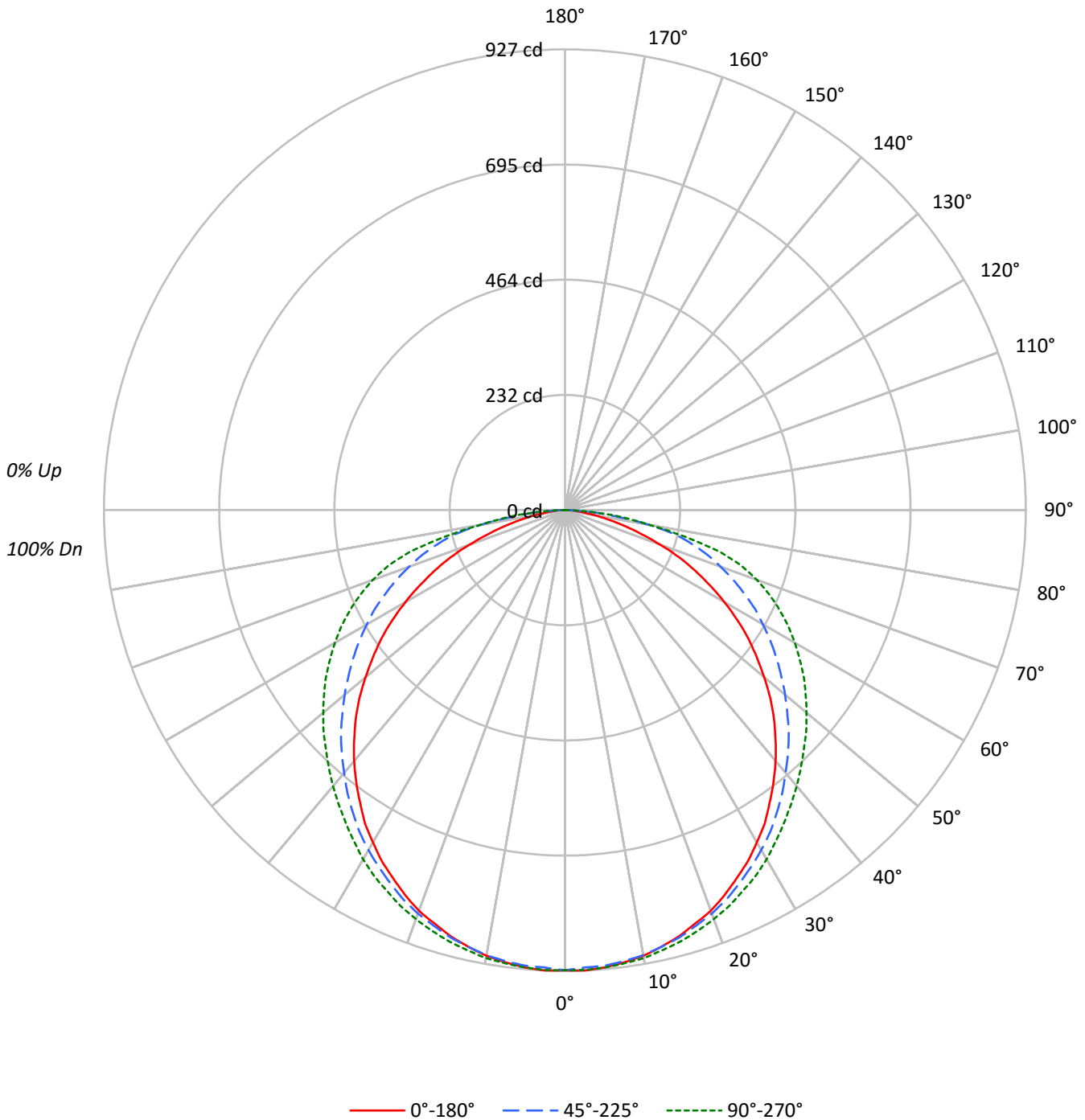
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1246	1246	1246
5°	1247	1243	1247
10°	1244	1242	1250
15°	1237	1240	1252
20°	1228	1237	1254
25°	1213	1231	1256
30°	1199	1227	1260
35°	1180	1221	1262
40°	1158	1213	1274
45°	1132	1212	1294
50°	1095	1211	1328
55°	1057	1219	1376
60°	997	1238	1437
65°	920	1267	1518
70°	804	1312	1617
75°	652	1379	1671
80°	481	1351	1351
85°	369	996	1125



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.7	3.1
10°-20°	251.9	8.8
20°-30°	383.5	13.4
30°-40°	465.6	16.3
40°-50°	491.9	17.2
50°-60°	464.2	16.3
60°-70°	386.0	13.5
70°-80°	253.9	8.9
80°-90°	69.2	2.4
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°	723.1	25.3
0°-40°	1188.7	41.7
0°-60°	2144.9	75.2
0°-90°	2854.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2854.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	926	926	926	926	926	
5°	924	924	920	924	924	88
15°	888	889	890	898	898	250
25°	817	822	829	844	846	377
35°	718	726	743	762	768	450
45°	595	607	637	668	680	458
55°	450	470	520	569	587	401
65°	289	323	398	456	477	286
75°	126	183	265	314	321	135
85°	24	53	64	72	73	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	926.0	926.0	926.0	926.0	926.0
2.5°	927.2	926.0	921.2	926.0	926.0
5°	923.6	923.6	920.0	923.6	923.6
7.5°	917.6	917.6	915.2	920.0	920.0
10°	910.4	910.4	909.3	915.2	915.2
12.5°	899.7	900.9	899.7	906.9	906.9
15°	887.7	888.9	890.1	898.5	898.5
17.5°	872.2	874.6	877.0	886.6	887.7
20°	857.9	859.1	863.9	874.6	875.8
22.5°	838.8	842.3	848.3	859.1	862.7
25°	817.3	822.0	829.2	843.5	845.9
27.5°	796.9	800.5	810.1	825.6	830.4
30°	771.9	777.8	789.8	805.3	811.3
32.5°	748.0	753.9	768.3	785.0	789.8
35°	718.1	726.4	743.2	762.3	768.3
37.5°	689.4	697.8	718.1	739.6	746.8
40°	659.5	669.1	690.6	715.7	725.3
42.5°	627.3	640.4	664.3	691.8	702.6
45°	595.0	607.0	636.8	667.9	679.9
47.5°	560.4	574.7	607.0	644.0	658.3
50°	523.3	541.3	578.3	618.9	634.4
52.5°	486.3	506.6	548.4	593.8	610.6
55°	450.4	469.6	519.7	568.7	586.7
57.5°	411.0	434.9	489.9	542.4	560.4
60°	370.4	396.7	460.0	515.0	534.1
62.5°	329.8	359.6	431.3	486.3	506.6
65°	289.1	322.6	397.9	456.4	476.7
67.5°	249.7	286.8	366.8	425.4	445.7
70°	204.3	250.9	333.4	390.7	411.0
72.5°	162.5	216.3	301.1	354.9	372.8
75°	125.5	182.8	265.2	314.2	321.4
77.5°	92.0	149.4	228.2	244.9	246.1
80°	62.1	119.5	174.4	172.1	174.4
82.5°	40.6	89.6	109.9	123.1	124.3
85°	23.9	52.6	64.5	71.7	72.9
87.5°	11.9	17.9	22.7	23.9	26.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)