

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: P309442

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CP187-W2A-U-5000K**

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: P309442
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-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 5000K 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: 2997.0 lumens
Efficiency: N/A
Efficacy: 86.6 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

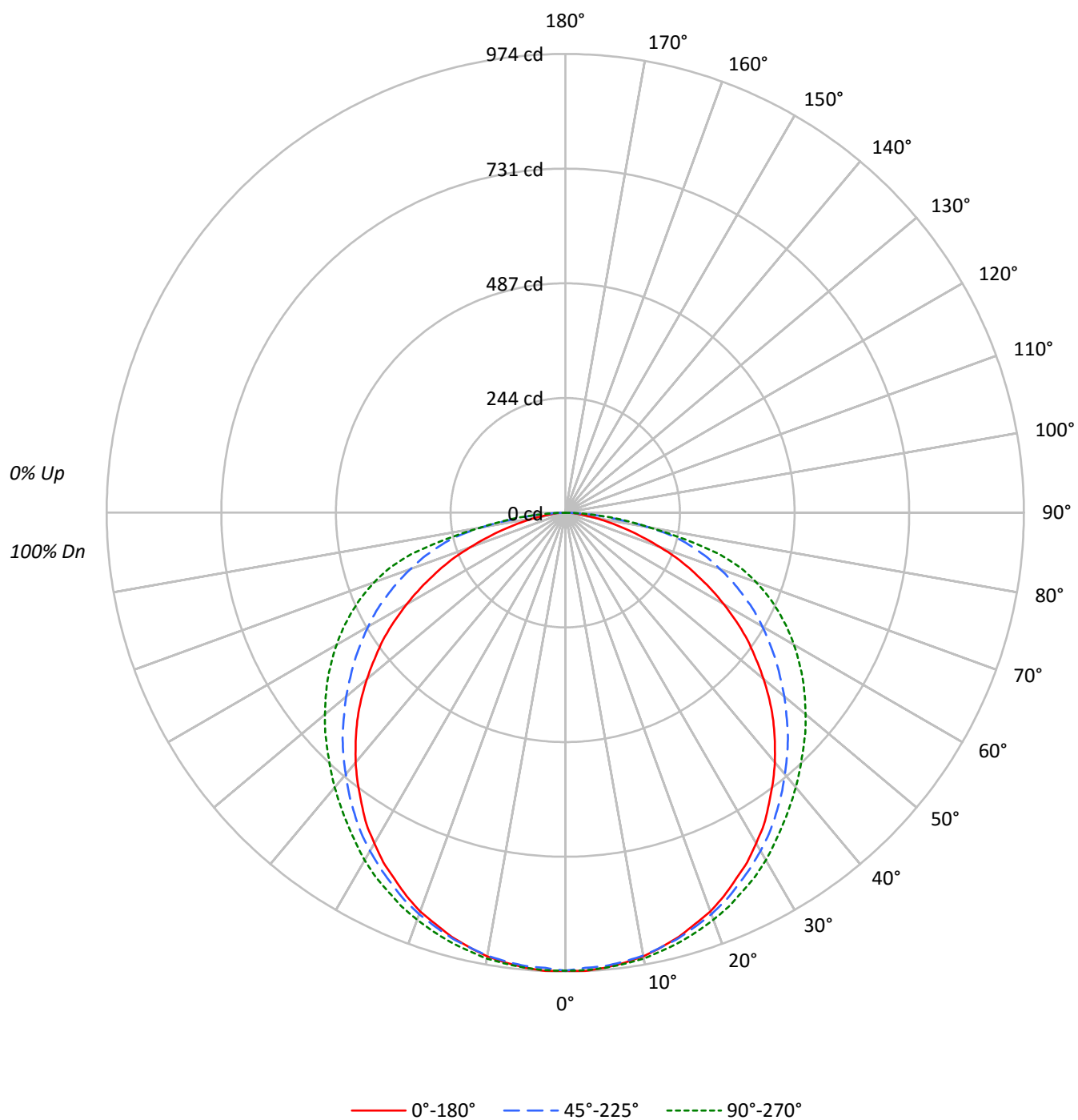
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1308	1308	1308
5°	1310	1305	1310
10°	1306	1304	1313
15°	1299	1302	1314
20°	1290	1299	1317
25°	1274	1293	1319
30°	1259	1288	1324
35°	1239	1282	1325
40°	1216	1274	1338
45°	1189	1272	1358
50°	1150	1271	1394
55°	1110	1280	1445
60°	1047	1300	1509
65°	967	1330	1594
70°	844	1377	1698
75°	685	1448	1755
80°	505	1420	1420
85°	387	1047	1181



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.1	3.1
10°-20°	264.5	8.8
20°-30°	402.7	13.4
30°-40°	489.0	16.3
40°-50°	516.6	17.2
50°-60°	487.5	16.3
60°-70°	405.3	13.5
70°-80°	266.6	8.9
80°-90°	72.7	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°	759.3	25.3
0°-40°	1248.3	41.7
0°-60°	2252.4	75.2
0°-90°	2997.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2997.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	972	972	972	972	972	
5°	970	970	966	970	970	92
15°	932	934	935	944	944	263
25°	858	863	871	886	888	396
35°	754	763	780	800	807	472
45°	625	637	669	701	714	481
55°	473	493	546	597	616	421
65°	304	339	418	479	501	300
75°	132	192	278	330	338	142
85°	25	55	68	75	76	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	972.4	972.4	972.4	972.4	972.4
2.5°	973.6	972.4	967.4	972.4	972.4
5°	969.9	969.9	966.1	969.9	969.9
7.5°	963.6	963.6	961.1	966.1	966.1
10°	956.1	956.1	954.8	961.1	961.1
12.5°	944.8	946.0	944.8	952.3	952.3
15°	932.2	933.5	934.7	943.5	943.5
17.5°	915.9	918.4	920.9	931.0	932.2
20°	900.9	902.1	907.1	918.4	919.7
22.5°	880.8	884.6	890.8	902.1	905.9
25°	858.2	863.2	870.7	885.8	888.3
27.5°	836.9	840.6	850.7	867.0	872.0
30°	810.5	816.8	829.3	845.7	851.9
32.5°	785.4	791.7	806.8	824.3	829.3
35°	754.1	762.8	780.4	800.5	806.8
37.5°	724.0	732.7	754.1	776.6	784.2
40°	692.6	702.6	725.2	751.6	761.6
42.5°	658.7	672.5	697.6	726.5	737.8
45°	624.8	637.4	668.7	701.4	713.9
47.5°	588.4	603.5	637.4	676.3	691.3
50°	549.6	568.4	607.3	649.9	666.2
52.5°	510.7	532.0	575.9	623.6	641.1
55°	473.0	493.1	545.8	597.2	616.0
57.5°	431.6	456.7	514.4	569.6	588.4
60°	389.0	416.6	483.1	540.8	560.8
62.5°	346.3	377.7	452.9	510.7	532.0
65°	303.6	338.8	417.8	479.3	500.6
67.5°	262.2	301.1	385.2	446.7	468.0
70°	214.6	263.5	350.1	410.3	431.6
72.5°	170.6	227.1	316.2	372.6	391.5
75°	131.7	192.0	278.5	330.0	337.5
77.5°	96.6	156.8	239.6	257.2	258.5
80°	65.2	125.5	183.2	180.7	183.2
82.5°	42.7	94.1	115.4	129.2	130.5
85°	25.1	55.2	67.8	75.3	76.5
87.5°	12.5	18.8	23.8	25.1	27.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)