

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: P313154

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-HRP-CP125-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: P313154
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: 24FCZ2-40HE-UNV-L83050-HRP-CP125-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" 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: 2996.0 lumens
Efficiency: N/A
Efficacy: 93.9 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

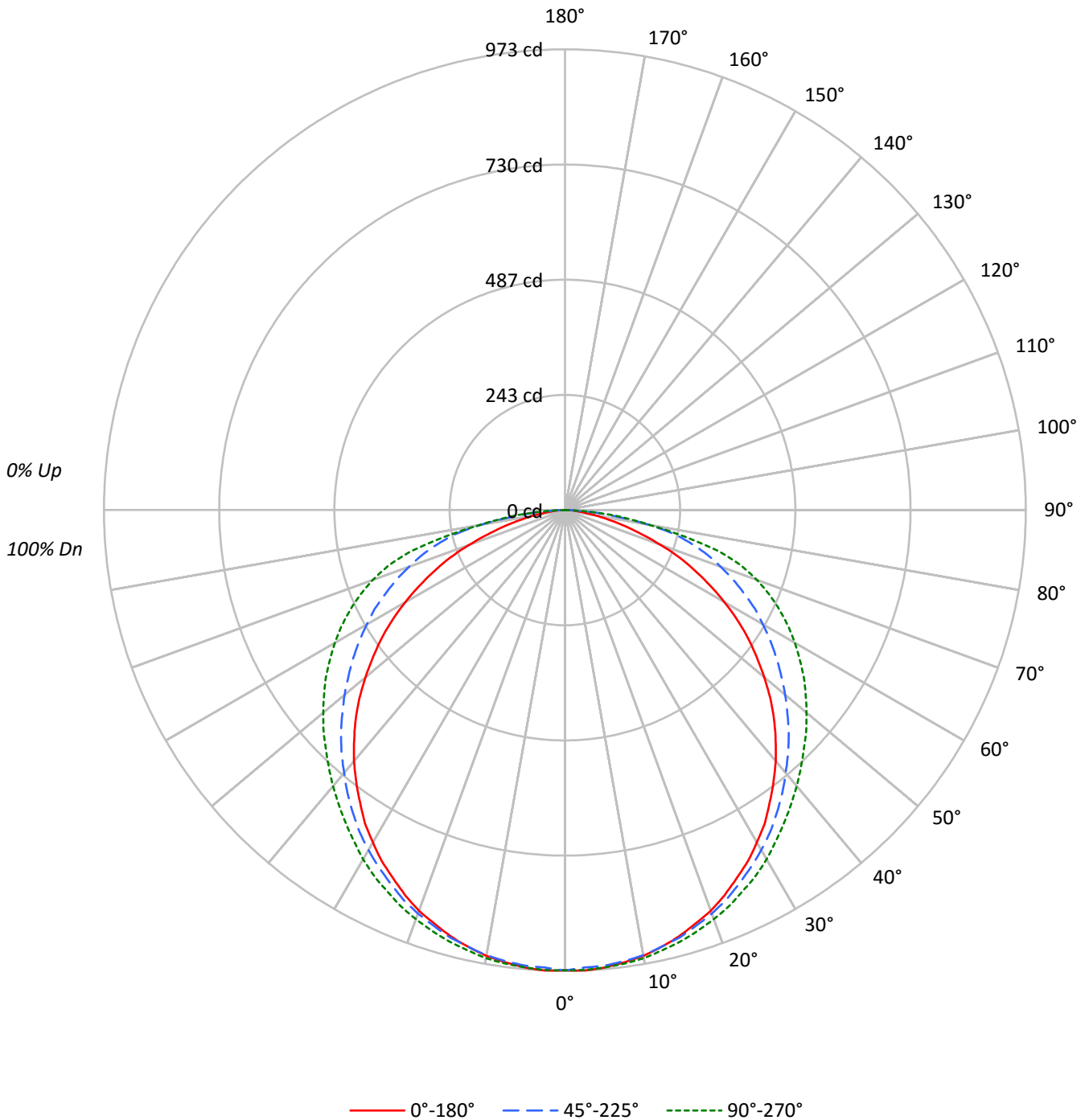
Input Watts (W): 31.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1308	1308	1308
5°	1309	1304	1309
10°	1306	1304	1313
15°	1298	1302	1314
20°	1290	1298	1316
25°	1274	1292	1318
30°	1259	1288	1323
35°	1238	1282	1325
40°	1216	1273	1337
45°	1188	1272	1358
50°	1150	1271	1394
55°	1109	1280	1445
60°	1046	1299	1509
65°	966	1330	1593
70°	844	1376	1697
75°	685	1447	1754
80°	505	1419	1419
85°	387	1045	1181



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.1	3.1
10°-20°	264.4	8.8
20°-30°	402.6	13.4
30°-40°	488.8	16.3
40°-50°	516.4	17.2
50°-60°	487.3	16.3
60°-70°	405.2	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°	759.1	25.3
0°-40°	1247.9	41.7
0°-60°	2251.6	75.2
0°-90°	2996.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2996.0	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	933	934	943	943	263
25°	858	863	870	886	888	396
35°	754	763	780	800	806	472
45°	625	637	668	701	714	481
55°	473	493	546	597	616	421
65°	304	339	418	479	500	300
75°	132	192	278	330	337	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°	972.1	972.1	972.1	972.1	972.1
2.5°	973.3	972.1	967.0	972.1	972.1
5°	969.5	969.5	965.8	969.5	969.5
7.5°	963.3	963.3	960.8	965.8	965.8
10°	955.7	955.7	954.5	960.8	960.8
12.5°	944.5	945.7	944.5	952.0	952.0
15°	931.9	933.2	934.4	943.2	943.2
17.5°	915.6	918.1	920.6	930.7	931.9
20°	900.6	901.8	906.8	918.1	919.4
22.5°	880.5	884.3	890.5	901.8	905.6
25°	857.9	862.9	870.5	885.5	888.0
27.5°	836.6	840.4	850.4	866.7	871.7
30°	810.3	816.5	829.1	845.4	851.6
32.5°	785.2	791.4	806.5	824.1	829.1
35°	753.8	762.6	780.2	800.2	806.5
37.5°	723.7	732.5	753.8	776.4	783.9
40°	692.4	702.4	725.0	751.3	761.3
42.5°	658.5	672.3	697.4	726.2	737.5
45°	624.6	637.2	668.5	701.1	713.7
47.5°	588.2	603.3	637.2	676.0	691.1
50°	549.4	568.2	607.1	649.7	666.0
52.5°	510.5	531.8	575.7	623.4	640.9
55°	472.9	492.9	545.6	597.0	615.8
57.5°	431.5	456.6	514.2	569.4	588.2
60°	388.8	416.4	482.9	540.6	560.7
62.5°	346.2	377.5	452.8	510.5	531.8
65°	303.5	338.7	417.7	479.1	500.5
67.5°	262.1	301.0	385.1	446.5	467.8
70°	214.5	263.4	349.9	410.1	431.5
72.5°	170.6	227.0	316.1	372.5	391.3
75°	131.7	191.9	278.4	329.9	337.4
77.5°	96.6	156.8	239.6	257.1	258.4
80°	65.2	125.4	183.1	180.6	183.1
82.5°	42.6	94.1	115.4	129.2	130.4
85°	25.1	55.2	67.7	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)