

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: P313196

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-HRP-CA125-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: P313196
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-L83050-HRP-CA125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" 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: 3174.0 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

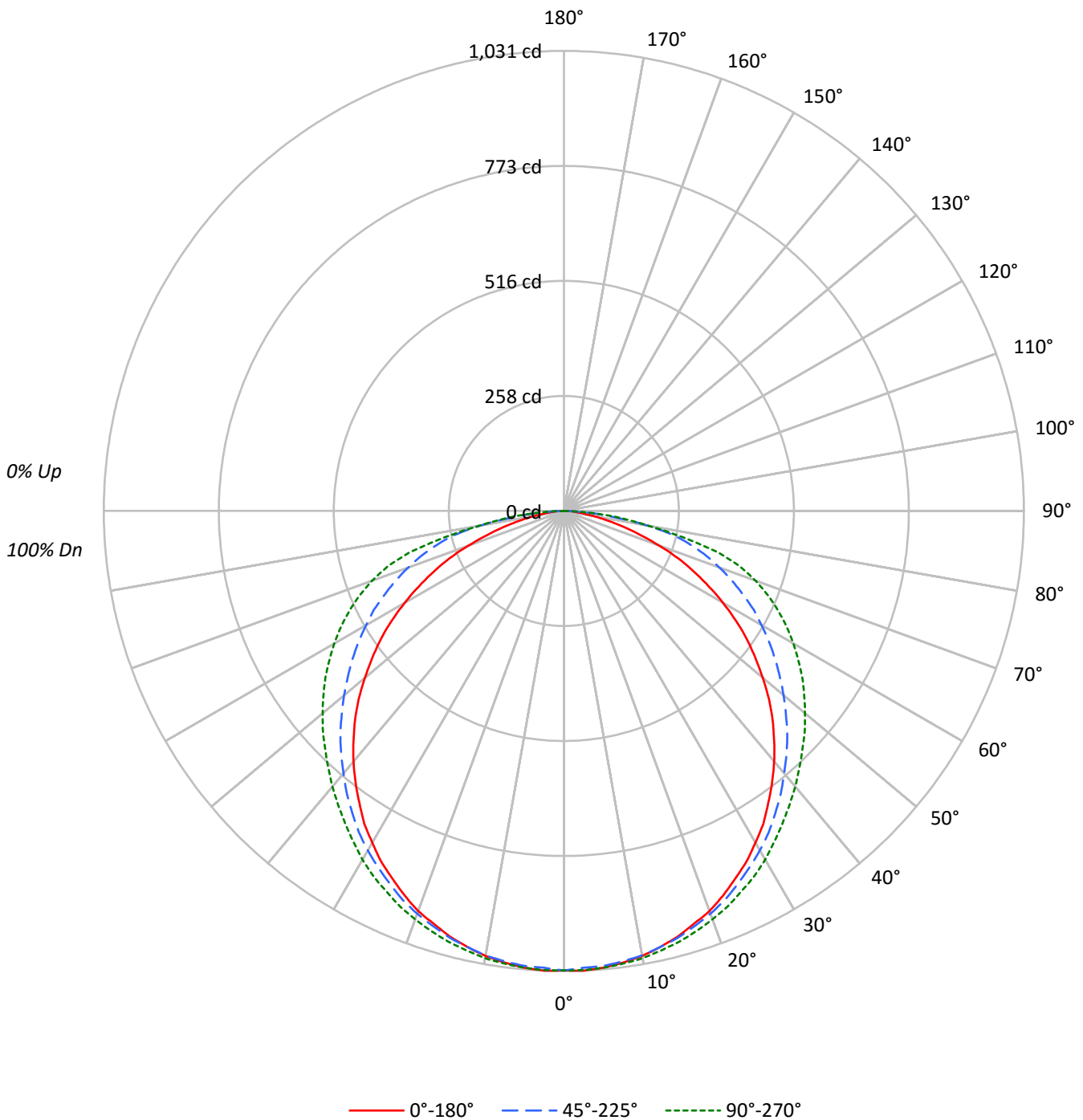
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1386	1386	1386
5°	1387	1382	1387
10°	1383	1382	1391
15°	1375	1379	1392
20°	1366	1376	1395
25°	1349	1369	1397
30°	1334	1365	1402
35°	1312	1358	1403
40°	1288	1349	1417
45°	1259	1348	1439
50°	1218	1346	1477
55°	1175	1356	1530
60°	1108	1377	1598
65°	1024	1409	1688
70°	894	1458	1798
75°	725	1534	1858
80°	535	1503	1503
85°	411	1108	1252



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.6	3.1
10°-20°	280.1	8.8
20°-30°	426.5	13.4
30°-40°	517.8	16.3
40°-50°	547.1	17.2
50°-60°	516.3	16.3
60°-70°	429.2	13.5
70°-80°	282.4	8.9
80°-90°	77.0	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°	804.2	25.3
0°-40°	1322.0	41.7
0°-60°	2385.4	75.2
0°-90°	3174.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3174.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1030	1030	1030	1030	1030	
5°	1027	1027	1023	1027	1027	98
15°	987	989	990	999	999	278
25°	909	914	922	938	941	419
35°	799	808	826	848	854	500
45°	662	675	708	743	756	510
55°	501	522	578	632	652	446
65°	322	359	442	508	530	318
75°	140	203	295	350	357	150
85°	27	58	72	80	81	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1029.8	1029.8	1029.8	1029.8	1029.8
2.5°	1031.1	1029.8	1024.5	1029.8	1029.8
5°	1027.1	1027.1	1023.2	1027.1	1027.1
7.5°	1020.5	1020.5	1017.8	1023.2	1023.2
10°	1012.5	1012.5	1011.2	1017.8	1017.8
12.5°	1000.6	1001.9	1000.6	1008.5	1008.5
15°	987.3	988.6	989.9	999.2	999.2
17.5°	970.0	972.7	975.3	986.0	987.3
20°	954.1	955.4	960.7	972.7	974.0
22.5°	932.8	936.8	943.4	955.4	959.4
25°	908.9	914.2	922.2	938.1	940.8
27.5°	886.3	890.3	900.9	918.2	923.5
30°	858.4	865.0	878.3	895.6	902.2
32.5°	831.8	838.5	854.4	873.0	878.3
35°	798.6	807.9	826.5	847.8	854.4
37.5°	766.7	776.0	798.6	822.5	830.5
40°	733.5	744.1	768.0	795.9	806.6
42.5°	697.6	712.2	738.8	769.4	781.3
45°	661.7	675.0	708.2	742.8	756.1
47.5°	623.2	639.1	675.0	716.2	732.2
50°	582.0	601.9	643.1	688.3	705.6
52.5°	540.8	563.4	609.9	660.4	679.0
55°	501.0	522.2	578.0	632.5	652.4
57.5°	457.1	483.7	544.8	603.3	623.2
60°	411.9	441.2	511.6	572.7	594.0
62.5°	366.7	400.0	479.7	540.8	563.4
65°	321.6	358.8	442.5	507.6	530.2
67.5°	277.7	318.9	407.9	473.0	495.6
70°	227.2	279.0	370.7	434.5	457.1
72.5°	180.7	240.5	334.9	394.6	414.6
75°	139.5	203.3	295.0	349.5	357.4
77.5°	102.3	166.1	253.8	272.4	273.7
80°	69.1	132.9	194.0	191.3	194.0
82.5°	45.2	99.7	122.2	136.9	138.2
85°	26.6	58.5	71.8	79.7	81.1
87.5°	13.3	19.9	25.2	26.6	29.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)