

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: P309440

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CP187-W2A-U-4000K**

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: P309440
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-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 4000K 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: 2905.0 lumens
Efficiency: N/A
Efficacy: 84.9 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

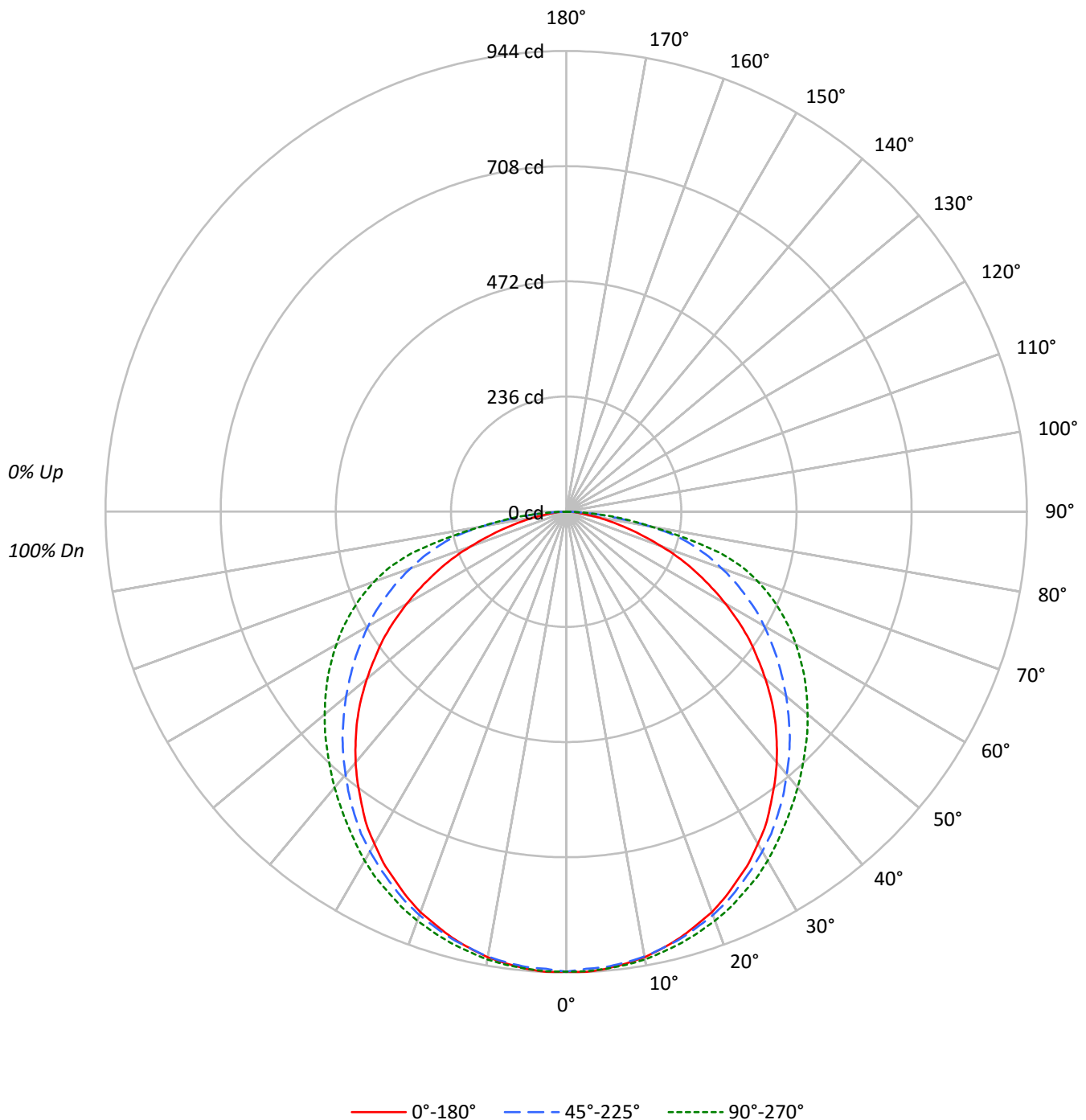
Input Watts (W): 34.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1268	1268	1268
5°	1270	1265	1270
10°	1266	1264	1273
15°	1259	1262	1274
20°	1250	1259	1276
25°	1235	1253	1278
30°	1221	1249	1283
35°	1201	1243	1284
40°	1179	1235	1297
45°	1153	1233	1317
50°	1115	1232	1352
55°	1076	1241	1401
60°	1014	1260	1463
65°	937	1289	1545
70°	818	1335	1646
75°	664	1404	1700
80°	490	1376	1376
85°	375	1014	1145



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.3	3.1
10°-20°	256.4	8.8
20°-30°	390.3	13.4
30°-40°	474.0	16.3
40°-50°	500.7	17.2
50°-60°	472.5	16.3
60°-70°	392.9	13.5
70°-80°	258.5	8.9
80°-90°	70.5	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°	736.0	25.3
0°-40°	1210.0	41.7
0°-60°	2183.2	75.2
0°-90°	2905.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2905.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	942	942	942	942	942	
5°	940	940	936	940	940	89
15°	904	905	906	915	915	255
25°	832	837	844	859	861	384
35°	731	739	756	776	782	458
45°	606	618	648	680	692	466
55°	458	478	529	579	597	408
65°	294	328	405	465	485	291
75°	128	186	270	320	327	138
85°	24	54	66	73	74	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	942.5	942.5	942.5	942.5	942.5
2.5°	943.7	942.5	937.7	942.5	942.5
5°	940.1	940.1	936.4	940.1	940.1
7.5°	934.0	934.0	931.6	936.4	936.4
10°	926.7	926.7	925.5	931.6	931.6
12.5°	915.8	917.0	915.8	923.1	923.1
15°	903.6	904.8	906.0	914.6	914.6
17.5°	887.8	890.2	892.7	902.4	903.6
20°	873.2	874.4	879.3	890.2	891.5
22.5°	853.7	857.4	863.5	874.4	878.1
25°	831.9	836.7	844.0	858.6	861.0
27.5°	811.2	814.8	824.6	840.4	845.2
30°	785.6	791.7	803.9	819.7	825.8
32.5°	761.3	767.4	782.0	799.0	803.9
35°	730.9	739.4	756.5	775.9	782.0
37.5°	701.7	710.2	730.9	752.8	760.1
40°	671.3	681.1	702.9	728.5	738.2
42.5°	638.5	651.9	676.2	704.2	715.1
45°	605.7	617.8	648.2	679.8	692.0
47.5°	570.4	585.0	617.8	655.5	670.1
50°	532.7	550.9	588.6	630.0	645.8
52.5°	495.0	515.7	558.2	604.4	621.5
55°	458.5	478.0	529.0	578.9	597.1
57.5°	418.4	442.7	498.6	552.1	570.4
60°	377.0	403.8	468.2	524.2	543.6
62.5°	335.7	366.1	439.0	495.0	515.7
65°	294.3	328.4	405.0	464.6	485.3
67.5°	254.2	291.9	373.4	433.0	453.6
70°	208.0	255.4	339.3	397.7	418.4
72.5°	165.4	220.1	306.5	361.2	379.4
75°	127.7	186.1	270.0	319.9	327.1
77.5°	93.6	152.0	232.3	249.3	250.5
80°	63.2	121.6	177.6	175.1	177.6
82.5°	41.3	91.2	111.9	125.3	126.5
85°	24.3	53.5	65.7	73.0	74.2
87.5°	12.2	18.2	23.1	24.3	26.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)