

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: P309437

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CP187-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: P309437
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-2700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB 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: 2671.0 lumens
Efficiency: N/A
Efficacy: 79.0 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

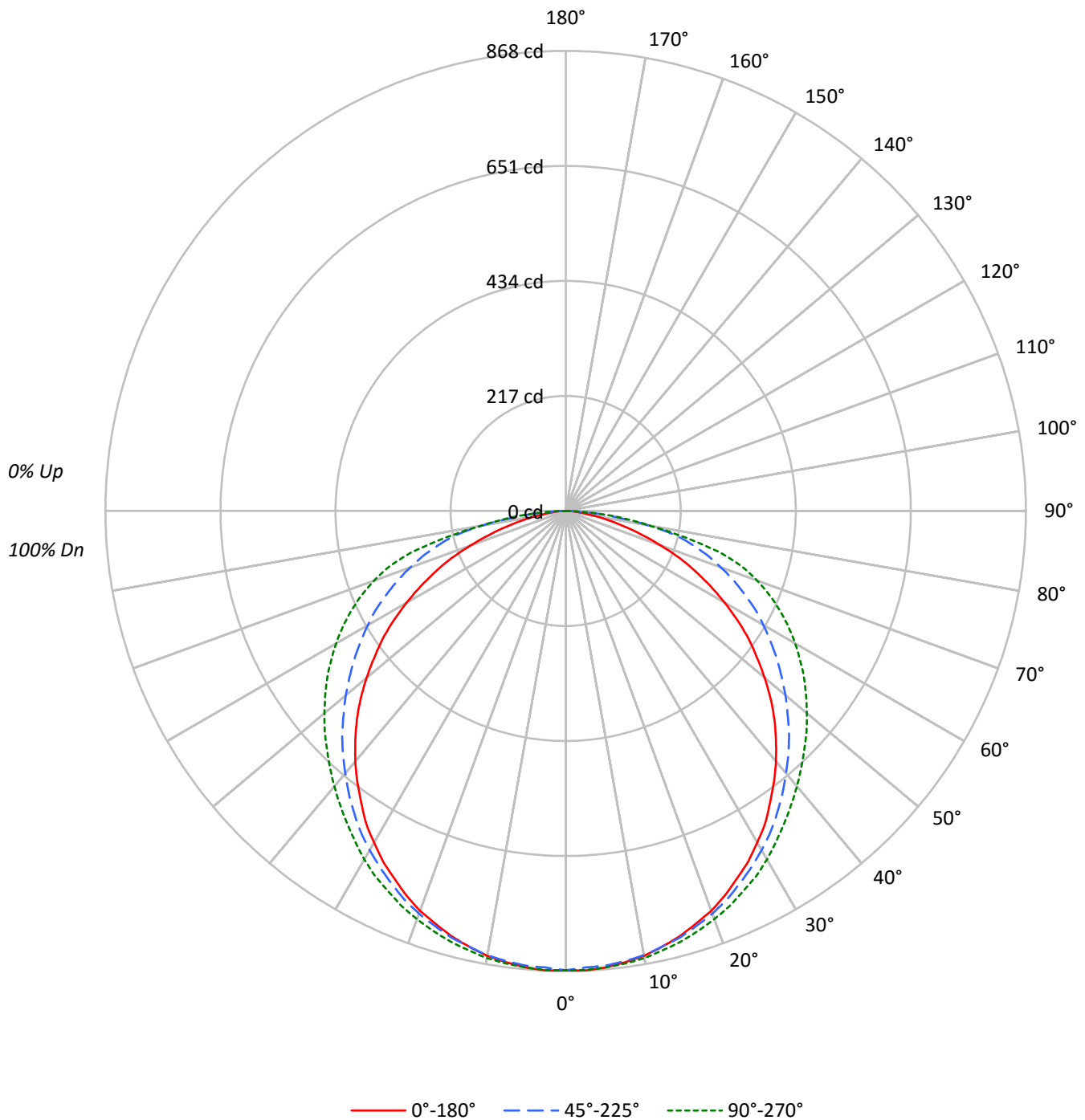
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	1166	1166	1166
5°	1167	1163	1167
10°	1164	1163	1170
15°	1157	1160	1171
20°	1150	1158	1174
25°	1136	1152	1175
30°	1122	1148	1180
35°	1104	1142	1181
40°	1084	1135	1192
45°	1060	1134	1211
50°	1025	1133	1243
55°	989	1141	1288
60°	933	1158	1345
65°	862	1186	1421
70°	752	1227	1513
75°	610	1290	1564
80°	450	1265	1265
85°	346	932	1053



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.1	3.1
10°-20°	235.7	8.8
20°-30°	358.9	13.4
30°-40°	435.8	16.3
40°-50°	460.4	17.2
50°-60°	434.4	16.3
60°-70°	361.2	13.5
70°-80°	237.7	8.9
80°-90°	64.8	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°	676.7	25.3
0°-40°	1112.5	41.7
0°-60°	2007.3	75.2
0°-90°	2671.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2671.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	867	867	867	867	867	
5°	864	864	861	864	864	82
15°	831	832	833	841	841	234
25°	765	769	776	790	792	353
35°	672	680	696	713	719	421
45°	557	568	596	625	636	429
55°	422	440	486	532	549	375
65°	271	302	372	427	446	267
75°	117	171	248	294	301	127
85°	22	49	60	67	68	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	866.6	866.6	866.6	866.6	866.6
2.5°	867.7	866.6	862.1	866.6	866.6
5°	864.4	864.4	861.0	864.4	864.4
7.5°	858.8	858.8	856.5	861.0	861.0
10°	852.1	852.1	851.0	856.5	856.5
12.5°	842.0	843.1	842.0	848.7	848.7
15°	830.8	831.9	833.1	840.9	840.9
17.5°	816.3	818.5	820.8	829.7	830.8
20°	802.9	804.0	808.5	818.5	819.6
22.5°	785.0	788.3	793.9	804.0	807.3
25°	764.9	769.3	776.0	789.5	791.7
27.5°	745.8	749.2	758.1	772.7	777.2
30°	722.4	728.0	739.1	753.7	759.3
32.5°	700.0	705.6	719.0	734.7	739.1
35°	672.0	679.9	695.5	713.4	719.0
37.5°	645.2	653.0	672.0	692.2	698.9
40°	617.2	626.2	646.3	669.8	678.7
42.5°	587.1	599.4	621.7	647.4	657.5
45°	556.9	568.0	596.0	625.1	636.3
47.5°	524.4	537.9	568.0	602.7	616.1
50°	489.8	506.5	541.2	579.2	593.8
52.5°	455.1	474.1	513.3	555.7	571.4
55°	421.6	439.5	486.4	532.3	549.0
57.5°	384.7	407.0	458.5	507.7	524.4
60°	346.6	371.2	430.5	481.9	499.8
62.5°	308.6	336.6	403.7	455.1	474.1
65°	270.6	301.9	372.4	427.2	446.2
67.5°	233.7	268.4	343.3	398.1	417.1
70°	191.2	234.8	312.0	365.7	384.7
72.5°	152.1	202.4	281.8	332.1	348.9
75°	117.4	171.1	248.2	294.1	300.8
77.5°	86.1	139.8	213.6	229.2	230.4
80°	58.1	111.8	163.3	161.0	163.3
82.5°	38.0	83.9	102.9	115.2	116.3
85°	22.4	49.2	60.4	67.1	68.2
87.5°	11.2	16.8	21.2	22.4	24.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)