

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: P309438

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CP187-W2A-U-3000K**

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: P309438
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-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 3000K 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: 2748.0 lumens
Efficiency: N/A
Efficacy: 81.8 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

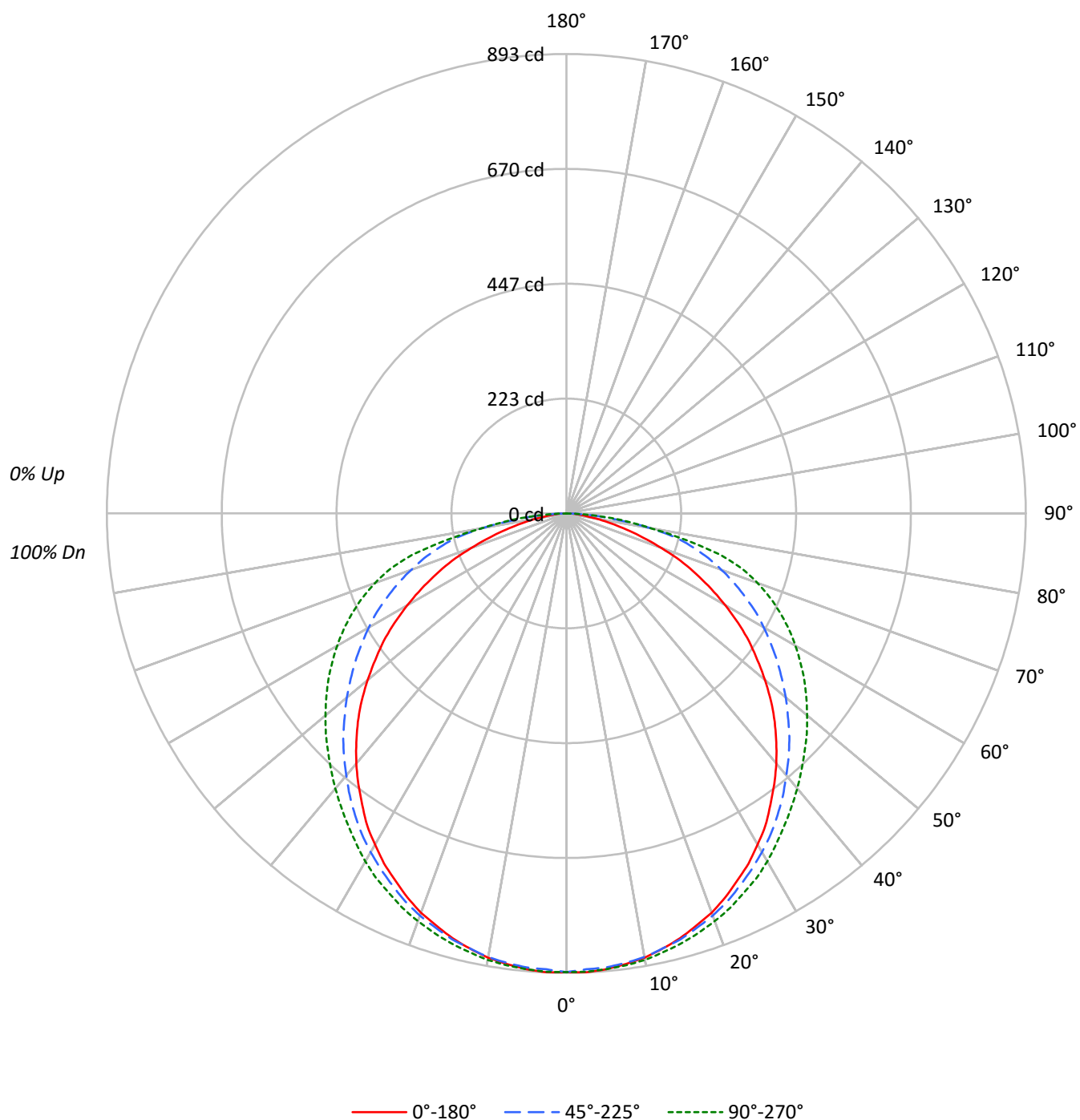
Input Watts (W): 33.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1200	1200	1200
5°	1201	1196	1201
10°	1198	1196	1204
15°	1191	1194	1205
20°	1183	1191	1207
25°	1168	1185	1209
30°	1155	1181	1214
35°	1136	1175	1215
40°	1115	1168	1227
45°	1090	1167	1246
50°	1055	1165	1279
55°	1017	1174	1325
60°	960	1192	1384
65°	886	1220	1461
70°	774	1263	1557
75°	628	1328	1609
80°	463	1302	1302
85°	355	959	1084



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.5	3.1
10°-20°	242.5	8.8
20°-30°	369.2	13.4
30°-40°	448.3	16.3
40°-50°	473.7	17.2
50°-60°	447.0	16.3
60°-70°	371.6	13.5
70°-80°	244.5	8.9
80°-90°	66.6	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°	696.2	25.3
0°-40°	1144.6	41.7
0°-60°	2065.2	75.2
0°-90°	2748.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2748.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	892	892	892	892	892	
5°	889	889	886	889	889	84
15°	855	856	857	865	865	241
25°	787	792	798	812	814	363
35°	691	700	716	734	740	433
45°	573	584	613	643	655	441
55°	434	452	500	548	565	386
65°	278	311	383	440	459	275
75°	121	176	255	303	310	130
85°	23	51	62	69	70	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	891.6	891.6	891.6	891.6	891.6
2.5°	892.7	891.6	887.0	891.6	891.6
5°	889.3	889.3	885.8	889.3	889.3
7.5°	883.5	883.5	881.2	885.8	885.8
10°	876.6	876.6	875.5	881.2	881.2
12.5°	866.3	867.4	866.3	873.2	873.2
15°	854.8	855.9	857.1	865.1	865.1
17.5°	839.8	842.1	844.4	853.6	854.8
20°	826.0	827.2	831.8	842.1	843.3
22.5°	807.6	811.1	816.8	827.2	830.6
25°	786.9	791.5	798.4	812.2	814.5
27.5°	767.3	770.8	780.0	795.0	799.6
30°	743.2	748.9	760.4	775.4	781.1
32.5°	720.2	725.9	739.7	755.8	760.4
35°	691.4	699.5	715.6	734.0	739.7
37.5°	663.8	671.9	691.4	712.1	719.0
40°	635.0	644.2	665.0	689.1	698.3
42.5°	604.0	616.6	639.6	666.1	676.5
45°	572.9	584.4	613.2	643.1	654.6
47.5°	539.6	553.4	584.4	620.1	633.9
50°	503.9	521.1	556.8	595.9	610.9
52.5°	468.2	487.8	528.1	571.8	587.9
55°	433.7	452.1	500.4	547.6	564.9
57.5°	395.8	418.8	471.7	522.3	539.6
60°	356.6	381.9	442.9	495.8	514.2
62.5°	317.5	346.3	415.3	468.2	487.8
65°	278.4	310.6	383.1	439.5	459.0
67.5°	240.4	276.1	353.2	409.6	429.1
70°	196.7	241.6	321.0	376.2	395.8
72.5°	156.5	208.2	289.9	341.7	358.9
75°	120.8	176.0	255.4	302.6	309.5
77.5°	88.6	143.8	219.7	235.8	237.0
80°	59.8	115.0	168.0	165.7	168.0
82.5°	39.1	86.3	105.8	118.5	119.6
85°	23.0	50.6	62.1	69.0	70.2
87.5°	11.5	17.3	21.9	23.0	25.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)