

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: P309439

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CP187-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: P309439
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-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB 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: 2843.0 lumens
Efficiency: N/A
Efficacy: 83.6 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

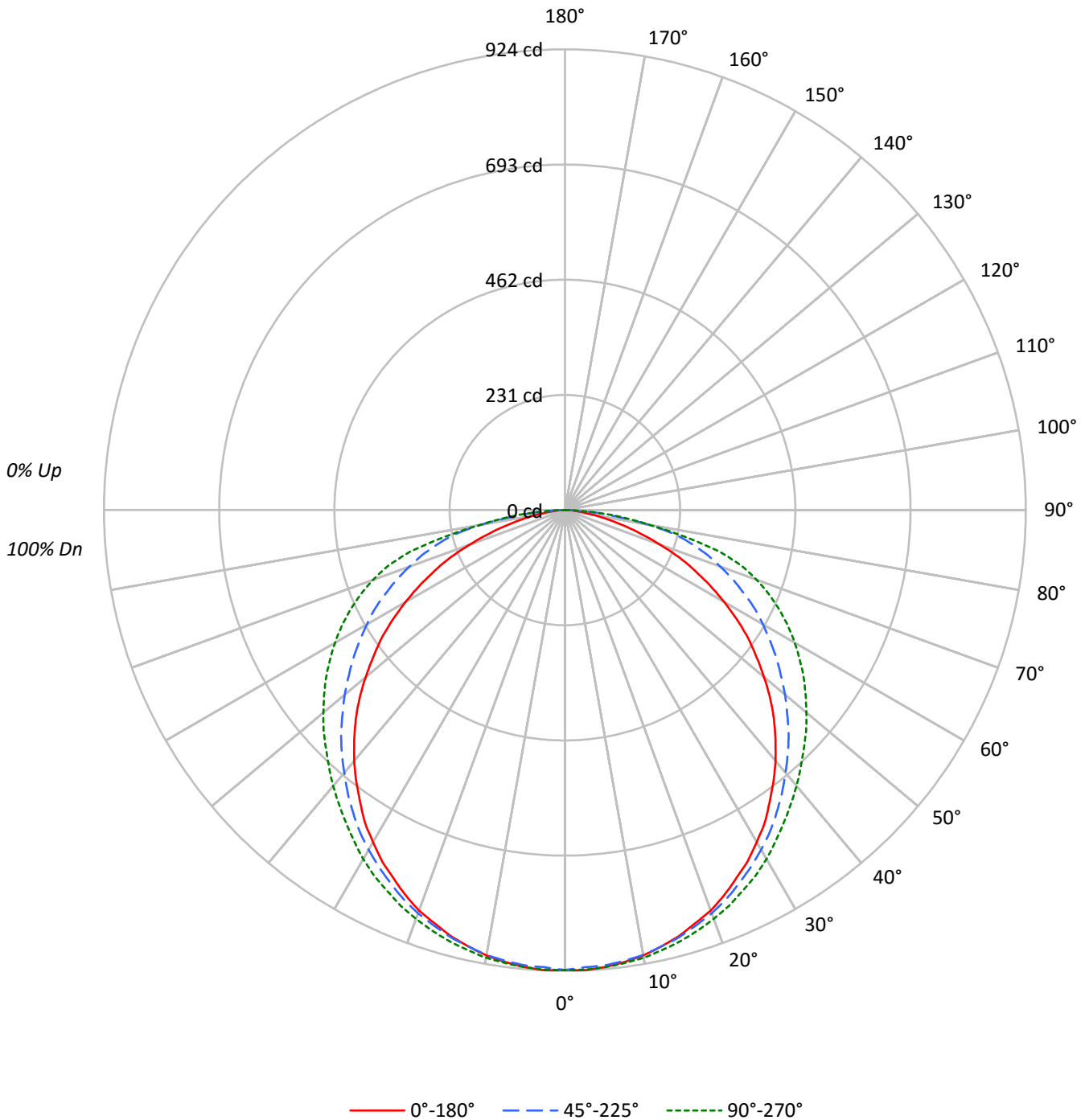
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1241	1241	1241
5°	1243	1238	1243
10°	1239	1238	1246
15°	1232	1235	1247
20°	1224	1232	1249
25°	1209	1226	1251
30°	1195	1222	1256
35°	1175	1216	1257
40°	1154	1208	1269
45°	1128	1207	1289
50°	1091	1206	1323
55°	1053	1214	1371
60°	993	1233	1432
65°	917	1262	1512
70°	801	1306	1611
75°	650	1373	1665
80°	480	1347	1347
85°	367	993	1121



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.4	3.1
10°-20°	250.9	8.8
20°-30°	382.0	13.4
30°-40°	463.8	16.3
40°-50°	490.0	17.2
50°-60°	462.4	16.3
60°-70°	384.5	13.5
70°-80°	252.9	8.9
80°-90°	69.0	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°	720.3	25.3
0°-40°	1184.1	41.7
0°-60°	2136.6	75.2
0°-90°	2843.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2843.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	922	922	922	922	922	
5°	920	920	916	920	920	87
15°	884	886	887	895	895	249
25°	814	819	826	840	843	376
35°	715	724	740	759	765	448
45°	593	605	634	665	677	456
55°	449	468	518	566	584	400
65°	288	321	396	455	475	285
75°	125	182	264	313	320	135
85°	24	52	64	71	73	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	922.4	922.4	922.4	922.4	922.4
2.5°	923.6	922.4	917.7	922.4	922.4
5°	920.0	920.0	916.5	920.0	920.0
7.5°	914.1	914.1	911.7	916.5	916.5
10°	906.9	906.9	905.8	911.7	911.7
12.5°	896.2	897.4	896.2	903.4	903.4
15°	884.3	885.5	886.7	895.0	895.0
17.5°	868.9	871.2	873.6	883.1	884.3
20°	854.6	855.8	860.5	871.2	872.4
22.5°	835.5	839.1	845.0	855.8	859.3
25°	814.1	818.9	826.0	840.3	842.7
27.5°	793.9	797.4	807.0	822.4	827.2
30°	768.9	774.8	786.7	802.2	808.2
32.5°	745.1	751.0	765.3	782.0	786.7
35°	715.3	723.6	740.3	759.4	765.3
37.5°	686.8	695.1	715.3	736.7	743.9
40°	657.0	666.5	687.9	712.9	722.5
42.5°	624.9	638.0	661.8	689.1	699.8
45°	592.7	604.6	634.4	665.3	677.2
47.5°	558.2	572.5	604.6	641.5	655.8
50°	521.3	539.2	576.1	616.5	632.0
52.5°	484.4	504.6	546.3	591.5	608.2
55°	448.7	467.8	517.7	566.5	584.4
57.5°	409.4	433.2	488.0	540.4	558.2
60°	369.0	395.2	458.2	513.0	532.0
62.5°	328.5	358.3	429.7	484.4	504.6
65°	288.0	321.4	396.3	454.7	474.9
67.5°	248.8	285.7	365.4	423.7	443.9
70°	203.5	249.9	332.1	389.2	409.4
72.5°	161.9	215.4	299.9	353.5	371.3
75°	125.0	182.1	264.2	313.0	320.2
77.5°	91.6	148.8	227.3	244.0	245.2
80°	61.9	119.0	173.8	171.4	173.8
82.5°	40.5	89.3	109.5	122.6	123.8
85°	23.8	52.4	64.3	71.4	72.6
87.5°	11.9	17.9	22.6	23.8	26.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)