

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: P309444

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-HRP-CP187-W2A-U-5700K**

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: P309444
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-5700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 5700K 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: 3035.0 lumens
Efficiency: N/A
Efficacy: 87.5 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

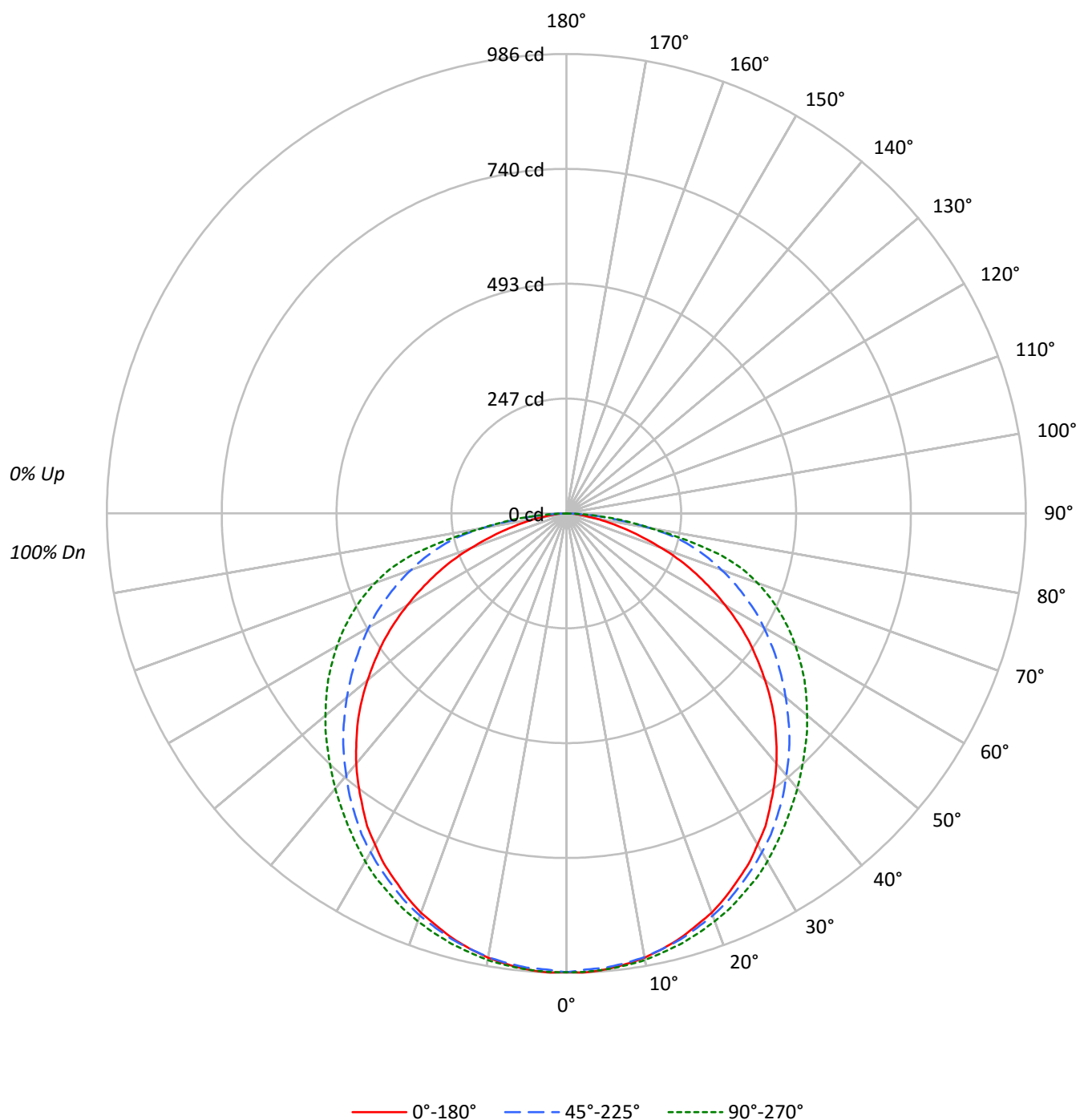
Input Watts (W): 34.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1325	1325	1325
5°	1327	1321	1327
10°	1323	1321	1330
15°	1315	1319	1331
20°	1306	1315	1333
25°	1290	1309	1336
30°	1275	1305	1340
35°	1254	1298	1342
40°	1232	1290	1355
45°	1204	1289	1376
50°	1165	1287	1412
55°	1124	1297	1464
60°	1060	1316	1528
65°	979	1347	1614
70°	855	1395	1720
75°	693	1467	1777
80°	512	1437	1437
85°	392	1059	1196



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.3	3.1
10°-20°	267.9	8.8
20°-30°	407.8	13.4
30°-40°	495.2	16.3
40°-50°	523.2	17.2
50°-60°	493.6	16.3
60°-70°	410.4	13.5
70°-80°	270.0	8.9
80°-90°	73.6	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°	769.0	25.3
0°-40°	1264.1	41.7
0°-60°	2280.9	75.2
0°-90°	3035.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3035.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	985	985	985	985	985	
5°	982	982	978	982	982	93
15°	944	945	947	956	956	266
25°	869	874	882	897	900	401
35°	764	772	790	811	817	478
45°	633	646	677	710	723	487
55°	479	499	553	605	624	427
65°	308	343	423	485	507	304
75°	133	194	282	334	342	144
85°	25	56	69	76	78	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	984.7	984.7	984.7	984.7	984.7
2.5°	986.0	984.7	979.6	984.7	984.7
5°	982.2	982.2	978.4	982.2	982.2
7.5°	975.8	975.8	973.3	978.4	978.4
10°	968.2	968.2	966.9	973.3	973.3
12.5°	956.8	958.0	956.8	964.4	964.4
15°	944.0	945.3	946.6	955.5	955.5
17.5°	927.5	930.1	932.6	942.8	944.0
20°	912.3	913.6	918.6	930.1	931.3
22.5°	892.0	895.8	902.1	913.6	917.4
25°	869.1	874.2	881.8	897.0	899.6
27.5°	847.5	851.3	861.5	878.0	883.1
30°	820.8	827.2	839.9	856.4	862.7
32.5°	795.4	801.7	817.0	834.8	839.9
35°	763.6	772.5	790.3	810.6	817.0
37.5°	733.1	742.0	763.6	786.5	794.1
40°	701.4	711.5	734.4	761.1	771.2
42.5°	667.1	681.0	706.4	735.7	747.1
45°	632.8	645.5	677.2	710.3	723.0
47.5°	595.9	611.2	645.5	684.8	700.1
50°	556.5	575.6	615.0	658.2	674.7
52.5°	517.1	538.7	583.2	631.5	649.3
55°	479.0	499.3	552.7	604.8	623.9
57.5°	437.1	462.5	520.9	576.8	595.9
60°	393.9	421.8	489.2	547.6	568.0
62.5°	350.7	382.4	458.7	517.1	538.7
65°	307.5	343.1	423.1	485.4	507.0
67.5°	265.6	304.9	390.1	452.3	473.9
70°	217.3	266.8	354.5	415.5	437.1
72.5°	172.8	230.0	320.2	377.4	396.4
75°	133.4	194.4	282.1	334.2	341.8
77.5°	97.8	158.8	242.7	260.5	261.7
80°	66.1	127.1	185.5	183.0	185.5
82.5°	43.2	95.3	116.9	130.9	132.1
85°	25.4	55.9	68.6	76.2	77.5
87.5°	12.7	19.1	24.1	25.4	28.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)