

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: P313205

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-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: P313205
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-L83050-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: 2817.0 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

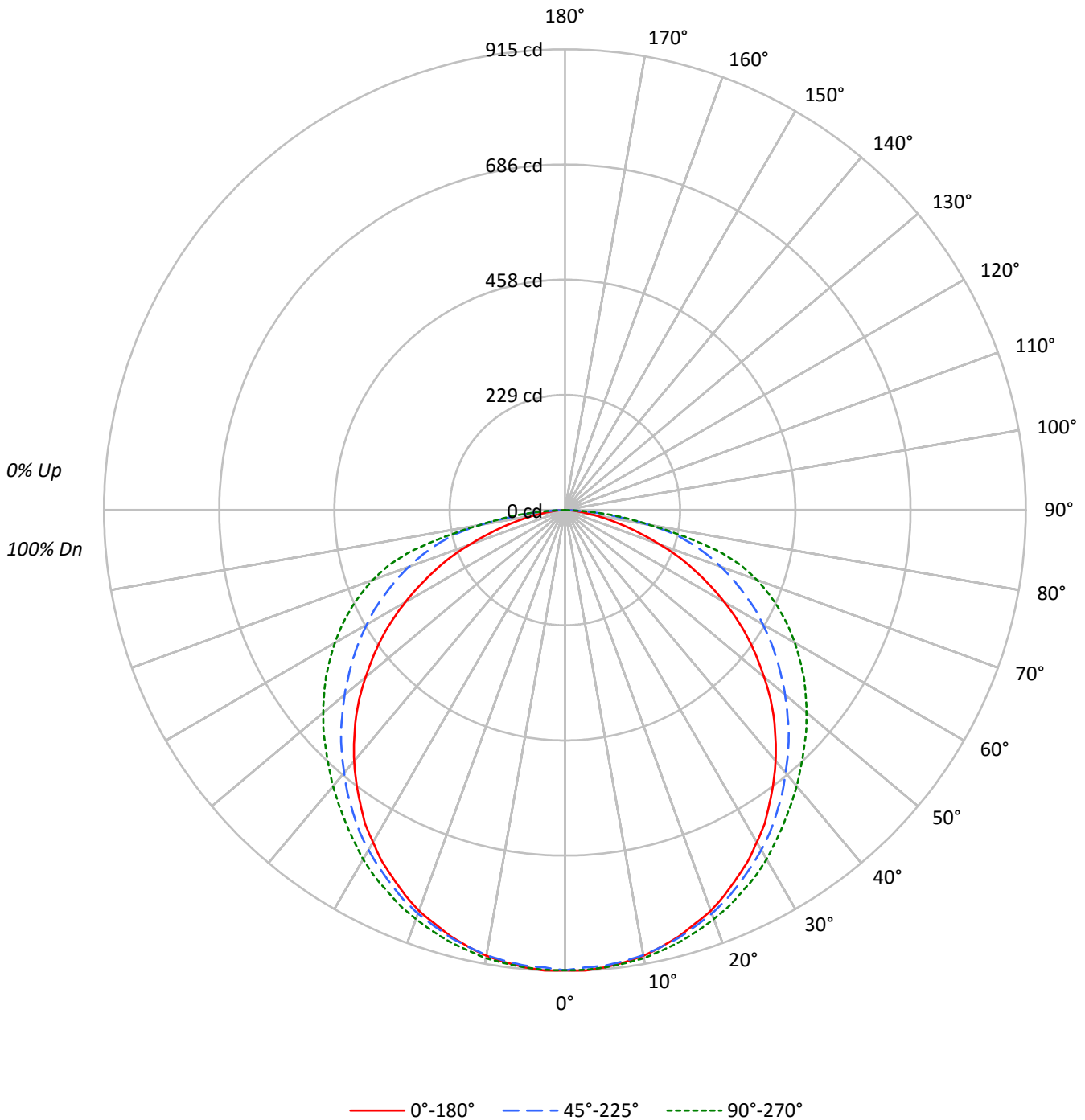
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1230	1230	1230
5°	1231	1227	1231
10°	1228	1226	1234
15°	1221	1224	1235
20°	1212	1221	1238
25°	1198	1215	1240
30°	1184	1211	1244
35°	1164	1205	1246
40°	1143	1197	1257
45°	1118	1196	1277
50°	1081	1195	1311
55°	1043	1203	1358
60°	984	1222	1419
65°	909	1250	1498
70°	793	1294	1596
75°	644	1361	1649
80°	475	1334	1334
85°	364	983	1110



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.6	3.1
10°-20°	248.6	8.8
20°-30°	378.5	13.4
30°-40°	459.6	16.3
40°-50°	485.6	17.2
50°-60°	458.2	16.3
60°-70°	381.0	13.5
70°-80°	250.6	8.9
80°-90°	68.3	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°	713.7	25.3
0°-40°	1173.3	41.7
0°-60°	2117.1	75.2
0°-90°	2817.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2817.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	914	914	914	914	914	
5°	912	912	908	912	912	87
15°	876	877	879	887	887	247
25°	807	811	818	833	835	372
35°	709	717	734	752	758	444
45°	587	599	629	659	671	452
55°	445	464	513	561	579	396
65°	285	318	393	450	471	282
75°	124	180	262	310	317	133
85°	24	52	64	71	72	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	914.0	914.0	914.0	914.0	914.0
2.5°	915.2	914.0	909.3	914.0	914.0
5°	911.6	911.6	908.1	911.6	911.6
7.5°	905.7	905.7	903.4	908.1	908.1
10°	898.6	898.6	897.5	903.4	903.4
12.5°	888.0	889.2	888.0	895.1	895.1
15°	876.2	877.4	878.6	886.9	886.9
17.5°	860.9	863.3	865.6	875.1	876.2
20°	846.8	847.9	852.7	863.3	864.4
22.5°	827.9	831.4	837.3	847.9	851.5
25°	806.7	811.4	818.5	832.6	835.0
27.5°	786.6	790.1	799.6	814.9	819.6
30°	761.8	767.7	779.5	794.9	800.8
32.5°	738.3	744.2	758.3	774.8	779.5
35°	708.8	717.0	733.5	752.4	758.3
37.5°	680.5	688.7	708.8	730.0	737.1
40°	651.0	660.4	681.7	706.4	715.9
42.5°	619.1	632.1	655.7	682.8	693.4
45°	587.3	599.1	628.6	659.2	671.0
47.5°	553.1	567.3	599.1	635.7	649.8
50°	516.5	534.2	570.8	610.9	626.2
52.5°	480.0	500.0	541.3	586.1	602.6
55°	444.6	463.5	513.0	561.4	579.0
57.5°	405.7	429.3	483.5	535.4	553.1
60°	365.6	391.5	454.0	508.3	527.2
62.5°	325.5	355.0	425.7	480.0	500.0
65°	285.4	318.4	392.7	450.5	470.6
67.5°	246.5	283.0	362.1	419.8	439.9
70°	201.7	247.7	329.0	385.6	405.7
72.5°	160.4	213.5	297.2	350.3	367.9
75°	123.8	180.4	261.8	310.2	317.2
77.5°	90.8	147.4	225.3	241.8	242.9
80°	61.3	117.9	172.2	169.8	172.2
82.5°	40.1	88.4	108.5	121.5	122.6
85°	23.6	51.9	63.7	70.8	71.9
87.5°	11.8	17.7	22.4	23.6	25.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)