

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: P309258

Luminaire Tested: **24FCZ2-35HE-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: P309258
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: 24FCZ2-35HE-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: 2156.0 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

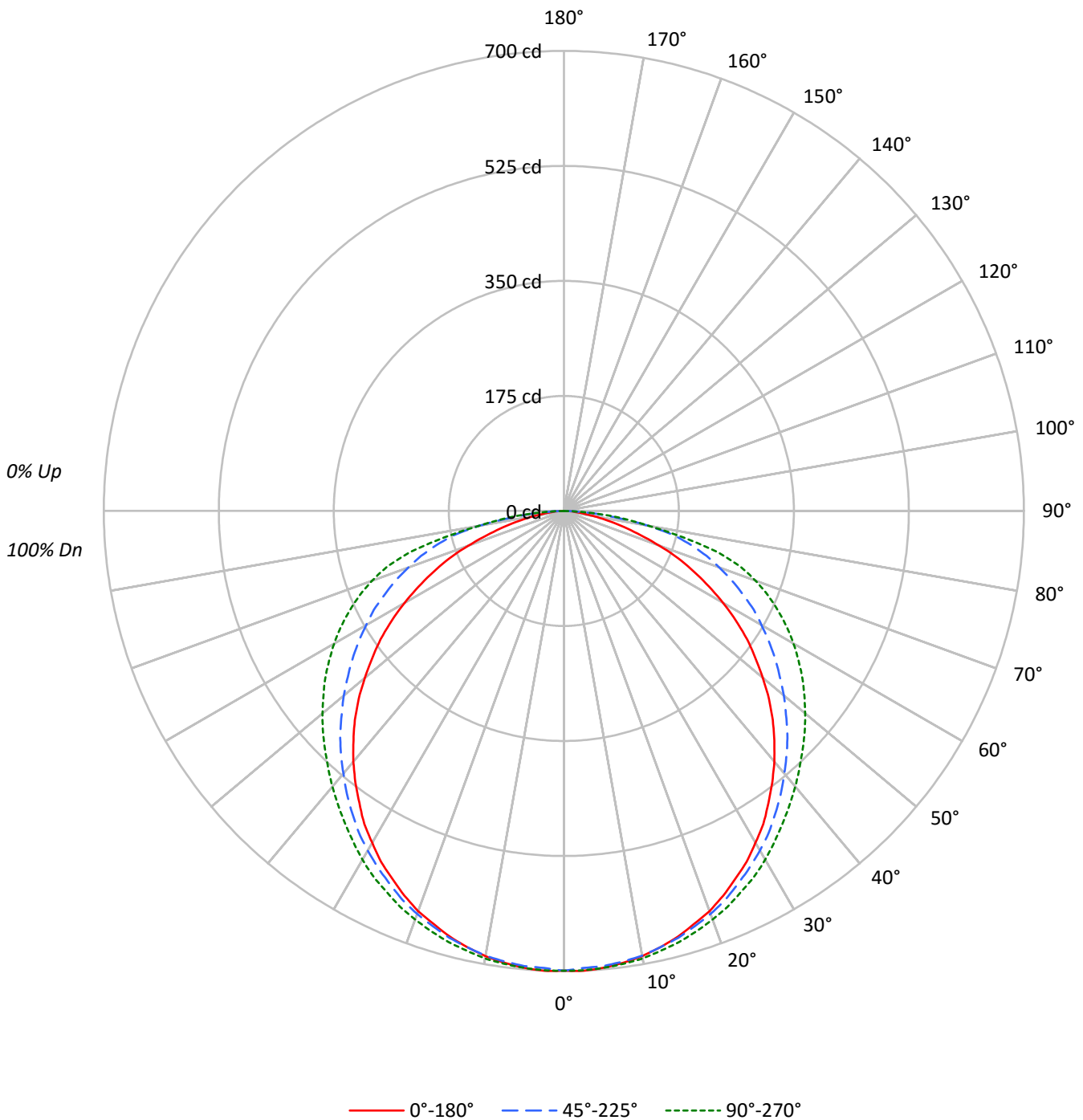
Input Watts (W): 25.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	941	941	941
5°	942	939	942
10°	940	938	945
15°	934	937	946
20°	928	934	947
25°	917	930	949
30°	906	927	952
35°	891	922	953
40°	875	916	962
45°	855	915	977
50°	827	915	1003
55°	798	921	1040
60°	753	935	1086
65°	695	957	1146
70°	607	991	1221
75°	493	1042	1262
80°	363	1021	1021
85°	279	752	851



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.3	3.1
10°-20°	190.3	8.8
20°-30°	289.7	13.4
30°-40°	351.8	16.3
40°-50°	371.6	17.2
50°-60°	350.7	16.3
60°-70°	291.6	13.5
70°-80°	191.8	8.9
80°-90°	52.3	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°	546.3	25.3
0°-40°	898.0	41.7
0°-60°	1620.3	75.2
0°-90°	2156.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2156.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	700	700	700	700	700	
5°	698	698	695	698	698	66
15°	671	672	672	679	679	189
25°	617	621	626	637	639	285
35°	542	549	561	576	580	340
45°	450	458	481	505	514	346
55°	340	355	393	430	443	303
65°	218	244	301	345	360	216
75°	95	138	200	237	243	102
85°	18	40	49	54	55	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	699.5	699.5	699.5	699.5	699.5
2.5°	700.4	699.5	695.9	699.5	699.5
5°	697.7	697.7	695.0	697.7	697.7
7.5°	693.2	693.2	691.4	695.0	695.0
10°	687.8	687.8	686.9	691.4	691.4
12.5°	679.7	680.6	679.7	685.1	685.1
15°	670.6	671.5	672.4	678.8	678.8
17.5°	658.9	660.7	662.5	669.7	670.6
20°	648.1	649.0	652.6	660.7	661.6
22.5°	633.6	636.3	640.8	649.0	651.7
25°	617.4	621.0	626.4	637.2	639.0
27.5°	602.0	604.7	612.0	623.7	627.3
30°	583.1	587.6	596.6	608.4	612.9
32.5°	565.0	569.5	580.4	593.0	596.6
35°	542.5	548.8	561.4	575.9	580.4
37.5°	520.8	527.1	542.5	558.7	564.1
40°	498.2	505.5	521.7	540.7	547.9
42.5°	473.9	483.8	501.8	522.6	530.7
45°	449.5	458.5	481.1	504.6	513.6
47.5°	423.3	434.2	458.5	486.5	497.3
50°	395.3	408.9	436.9	467.5	479.3
52.5°	367.4	382.7	414.3	448.6	461.2
55°	340.3	354.7	392.6	429.6	443.2
57.5°	310.5	328.5	370.1	409.8	423.3
60°	279.8	299.7	347.5	389.0	403.5
62.5°	249.1	271.7	325.8	367.4	382.7
65°	218.4	243.7	300.6	344.8	360.1
67.5°	188.6	216.6	277.1	321.3	336.7
70°	154.3	189.5	251.8	295.2	310.5
72.5°	122.8	163.4	227.5	268.1	281.6
75°	94.8	138.1	200.4	237.4	242.8
77.5°	69.5	112.8	172.4	185.0	185.9
80°	46.9	90.3	131.8	130.0	131.8
82.5°	30.7	67.7	83.0	93.0	93.9
85°	18.1	39.7	48.7	54.2	55.1
87.5°	9.0	13.5	17.1	18.1	19.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)