

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: P313108

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-HRP-CP187-W2A-U-4500K**

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: P313108  
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-L83050-HRP-CP187-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 4500K 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**

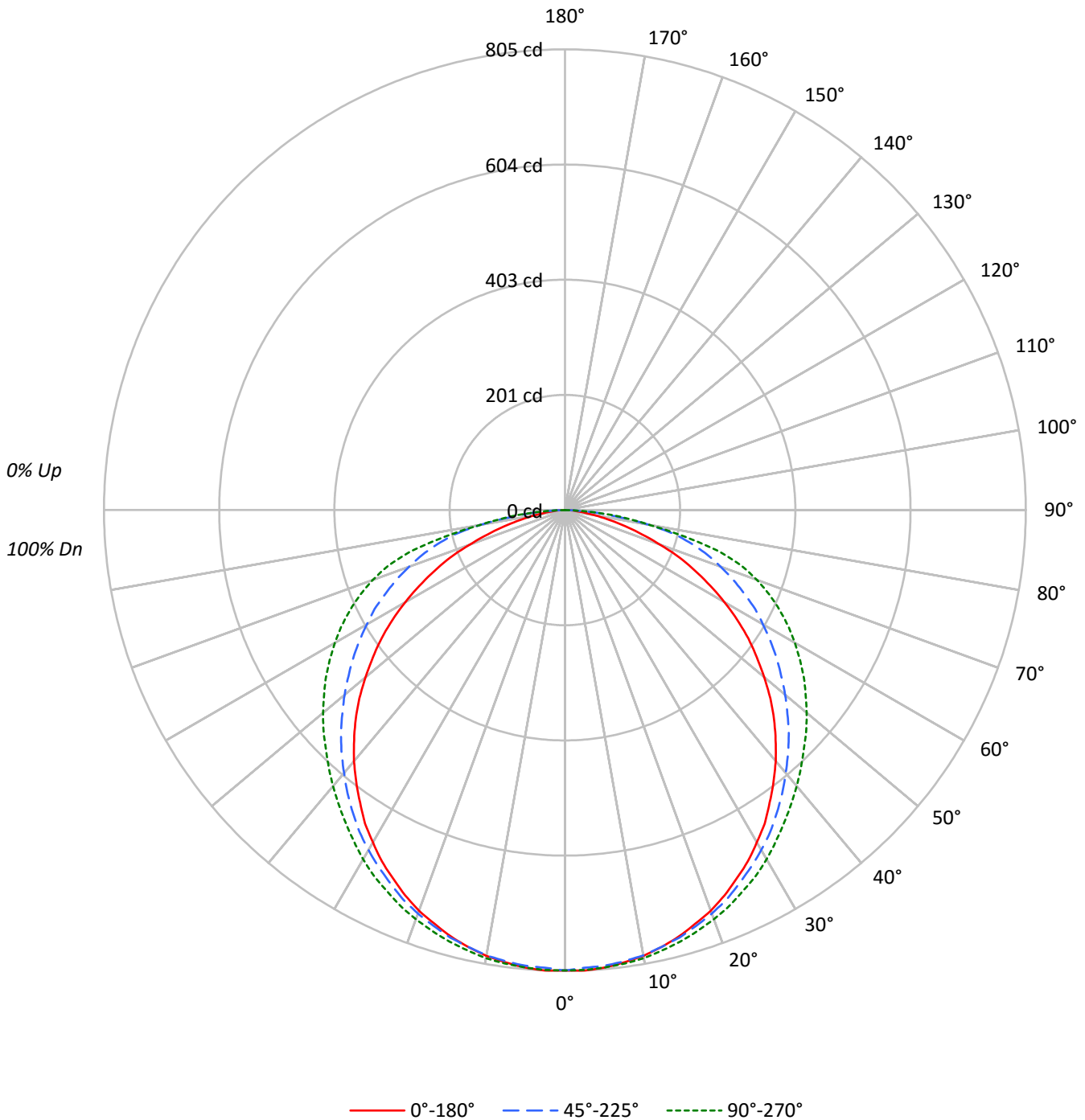
Lumens per Lamp: N/A  
Luminaire Lumens: 2479.0 lumens  
Efficiency: N/A  
Efficacy: 90.8 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 27.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	1082	1082	1082
5°	1083	1079	1083
10°	1080	1079	1086
15°	1074	1077	1087
20°	1067	1074	1089
25°	1054	1069	1091
30°	1042	1066	1095
35°	1024	1060	1096
40°	1006	1054	1107
45°	983	1053	1124
50°	952	1051	1154
55°	918	1059	1195
60°	866	1075	1248
65°	800	1100	1318
70°	698	1139	1404
75°	567	1198	1451
80°	418	1174	1174
85°	321	865	977



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.2	3.1
10°-20°	218.8	8.8
20°-30°	333.1	13.4
30°-40°	404.5	16.3
40°-50°	427.3	17.2
50°-60°	403.2	16.3
60°-70°	335.3	13.5
70°-80°	220.6	8.9
80°-90°	60.1	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°	628.1	25.3
0°-40°	1032.5	41.7
0°-60°	1863.1	75.2
0°-90°	2479.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2479.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	804	804	804	804	804	
5°	802	802	799	802	802	76
15°	771	772	773	780	780	217
25°	710	714	720	733	735	327
35°	624	631	646	662	667	390
45°	517	527	553	580	590	398
55°	391	408	452	494	510	349
65°	251	280	346	396	414	248
75°	109	159	230	273	279	117
85°	21	46	56	62	63	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	804.3	804.3	804.3	804.3	804.3
2.5°	805.4	804.3	800.2	804.3	804.3
5°	802.2	802.2	799.1	802.2	802.2
7.5°	797.0	797.0	795.0	799.1	799.1
10°	790.8	790.8	789.8	795.0	795.0
12.5°	781.5	782.5	781.5	787.7	787.7
15°	771.1	772.1	773.2	780.4	780.4
17.5°	757.6	759.7	761.8	770.1	771.1
20°	745.2	746.2	750.3	759.7	760.7
22.5°	728.6	731.7	736.9	746.2	749.3
25°	709.9	714.0	720.2	732.7	734.8
27.5°	692.2	695.3	703.6	717.1	721.3
30°	670.4	675.6	686.0	699.5	704.7
32.5°	649.7	654.9	667.3	681.9	686.0
35°	623.7	631.0	645.5	662.1	667.3
37.5°	598.8	606.1	623.7	642.4	648.6
40°	572.9	581.2	599.9	621.7	630.0
42.5°	544.9	556.3	577.0	600.9	610.2
45°	516.8	527.2	553.2	580.1	590.5
47.5°	486.7	499.2	527.2	559.4	571.8
50°	454.6	470.1	502.3	537.6	551.1
52.5°	422.4	440.0	476.4	515.8	530.3
55°	391.3	407.9	451.5	494.0	509.6
57.5°	357.0	377.8	425.5	471.2	486.7
60°	321.7	344.6	399.6	447.3	463.9
62.5°	286.4	312.4	374.7	422.4	440.0
65°	251.2	280.2	345.6	396.4	414.1
67.5°	216.9	249.1	318.6	369.5	387.1
70°	177.5	217.9	289.6	339.4	357.0
72.5°	141.1	187.8	261.5	308.2	323.8
75°	109.0	158.8	230.4	272.9	279.2
77.5°	79.9	129.7	198.2	212.8	213.8
80°	54.0	103.8	151.5	149.4	151.5
82.5°	35.3	77.8	95.5	106.9	107.9
85°	20.8	45.7	56.0	62.3	63.3
87.5°	10.4	15.6	19.7	20.8	22.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)