

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: P309305

Luminaire Tested: **24FCZ2-35-UNV-L82765-HRP-CP187-W2A-U-4000K**

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: P309305
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: 24FCZ2-35-UNV-L82765-HRP-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 4000K 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: 2305.0 lumens
Efficiency: N/A
Efficacy: 81.4 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

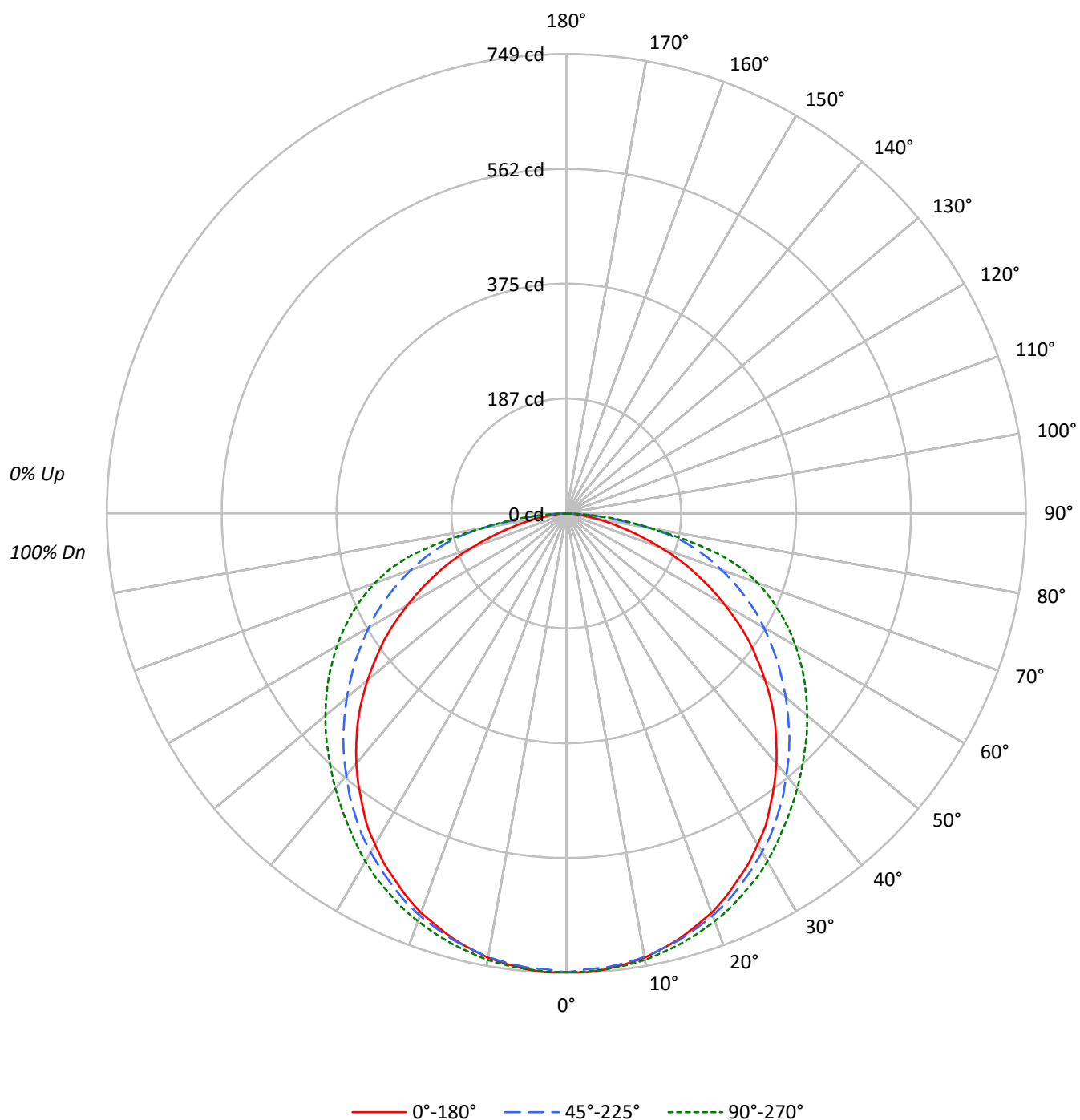
Input Watts (W): 28.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	1006	1006	1006
5°	1007	1004	1007
10°	1005	1003	1010
15°	999	1001	1011
20°	992	999	1013
25°	980	994	1014
30°	969	991	1018
35°	953	986	1019
40°	936	980	1029
45°	914	979	1045
50°	885	978	1073
55°	853	985	1111
60°	805	1000	1161
65°	743	1023	1226
70°	649	1059	1306
75°	527	1114	1350
80°	389	1092	1092
85°	298	804	909



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.8	3.1
10°-20°	203.4	8.8
20°-30°	309.7	13.4
30°-40°	376.1	16.3
40°-50°	397.3	17.2
50°-60°	374.9	16.3
60°-70°	311.7	13.5
70°-80°	205.1	8.9
80°-90°	55.9	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°	584.0	25.3
0°-40°	960.1	41.7
0°-60°	1732.3	75.2
0°-90°	2305.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2305.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	748	748	748	748	748	
5°	746	746	743	746	746	71
15°	717	718	719	726	726	202
25°	660	664	670	681	683	304
35°	580	587	600	616	620	363
45°	481	490	514	539	549	370
55°	364	379	420	459	474	324
65°	234	260	321	369	385	231
75°	101	148	214	254	260	109
85°	19	42	52	58	59	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	747.9	747.9	747.9	747.9	747.9
2.5°	748.8	747.9	744.0	747.9	747.9
5°	745.9	745.9	743.0	745.9	745.9
7.5°	741.1	741.1	739.2	743.0	743.0
10°	735.3	735.3	734.3	739.2	739.2
12.5°	726.6	727.6	726.6	732.4	732.4
15°	717.0	717.9	718.9	725.7	725.7
17.5°	704.4	706.4	708.3	716.0	717.0
20°	692.9	693.8	697.7	706.4	707.3
22.5°	677.4	680.3	685.1	693.8	696.7
25°	660.0	663.9	669.7	681.3	683.2
27.5°	643.6	646.5	654.3	666.8	670.7
30°	623.4	628.2	637.9	650.4	655.2
32.5°	604.1	608.9	620.5	634.0	637.9
35°	580.0	586.7	600.2	615.7	620.5
37.5°	556.8	563.5	580.0	597.3	603.1
40°	532.7	540.4	557.8	578.0	585.7
42.5°	506.6	517.2	536.5	558.7	567.4
45°	480.6	490.2	514.3	539.4	549.1
47.5°	452.6	464.2	490.2	520.1	531.7
50°	422.7	437.1	467.1	499.9	512.4
52.5°	392.7	409.2	442.9	479.6	493.1
55°	363.8	379.2	419.8	459.3	473.8
57.5°	332.0	351.3	395.6	438.1	452.6
60°	299.1	320.4	371.5	415.9	431.3
62.5°	266.3	290.5	348.4	392.7	409.2
65°	233.5	260.5	321.3	368.6	385.0
67.5°	201.7	231.6	296.2	343.5	359.9
70°	165.0	202.6	269.2	315.5	332.0
72.5°	131.2	174.7	243.2	286.6	301.1
75°	101.3	147.6	214.2	253.8	259.6
77.5°	74.3	120.6	184.3	197.8	198.8
80°	50.2	96.5	140.9	139.0	140.9
82.5°	32.8	72.4	88.8	99.4	100.4
85°	19.3	42.5	52.1	57.9	58.9
87.5°	9.6	14.5	18.3	19.3	21.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)