

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: P309670

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP187-W2A-U-6500K**

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: P309670
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: 24FCZ2-60HE-UNV-L82765-HRP-CP187-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB SHEET
Light Source: (336) 6500K 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: 4092.0 lumens
Efficiency: N/A
Efficacy: 82.3 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

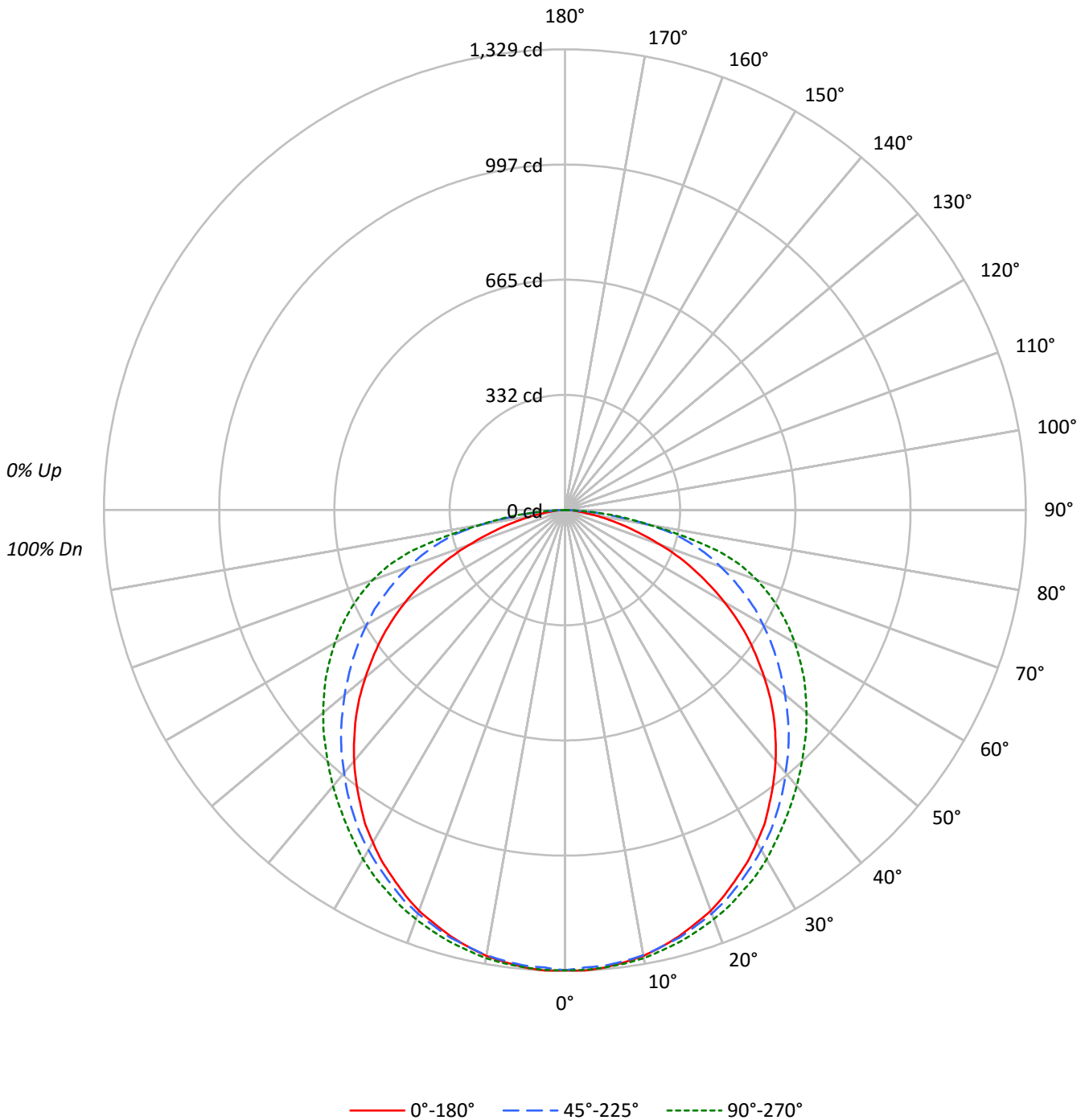
Input Watts (W): 49.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					10	0
RW	70	50	30	10	70	50	30	10	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°	1786	1786	1786
5°	1789	1782	1789
10°	1783	1781	1793
15°	1773	1778	1795
20°	1761	1773	1798
25°	1740	1765	1801
30°	1719	1759	1807
35°	1691	1750	1809
40°	1661	1739	1826
45°	1623	1737	1855
50°	1571	1735	1904
55°	1515	1748	1973
60°	1429	1775	2061
65°	1320	1816	2176
70°	1152	1880	2318
75°	935	1977	2396
80°	690	1938	1938
85°	530	1428	1613



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.8	3.1
10°-20°	361.2	8.8
20°-30°	549.8	13.4
30°-40°	667.6	16.3
40°-50°	705.3	17.2
50°-60°	665.6	16.3
60°-70°	553.4	13.5
70°-80°	364.1	8.9
80°-90°	99.2	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°	1036.8	25.3
0°-40°	1704.4	41.7
0°-60°	3075.3	75.2
0°-90°	4092.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4092.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1328	1328	1328	1328	1328	
5°	1324	1324	1319	1324	1324	126
15°	1273	1274	1276	1288	1288	359
25°	1172	1179	1189	1209	1213	541
35°	1030	1042	1066	1093	1102	645
45°	853	870	913	958	975	657
55°	646	673	745	815	841	575
65°	415	462	570	654	684	410
75°	180	262	380	450	461	194
85°	34	75	92	103	104	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1327.7	1327.7	1327.7	1327.7	1327.7
2.5°	1329.4	1327.7	1320.8	1327.7	1327.7
5°	1324.2	1324.2	1319.1	1324.2	1324.2
7.5°	1315.7	1315.7	1312.2	1319.1	1319.1
10°	1305.4	1305.4	1303.7	1312.2	1312.2
12.5°	1290.0	1291.7	1290.0	1300.2	1300.2
15°	1272.8	1274.5	1276.3	1288.3	1288.3
17.5°	1250.6	1254.0	1257.4	1271.1	1272.8
20°	1230.0	1231.7	1238.6	1254.0	1255.7
22.5°	1202.6	1207.7	1216.3	1231.7	1236.9
25°	1171.8	1178.6	1188.9	1209.4	1212.9
27.5°	1142.6	1147.8	1161.5	1183.8	1190.6
30°	1106.7	1115.2	1132.4	1154.6	1163.2
32.5°	1072.4	1081.0	1101.5	1125.5	1132.4
35°	1029.6	1041.6	1065.5	1093.0	1101.5
37.5°	988.5	1000.5	1029.6	1060.4	1070.7
40°	945.6	959.3	990.2	1026.1	1039.9
42.5°	899.4	918.2	952.5	991.9	1007.3
45°	853.1	870.3	913.1	957.6	974.8
47.5°	803.4	824.0	870.3	923.4	943.9
50°	750.3	776.0	829.1	887.4	909.7
52.5°	697.2	726.4	786.3	851.4	875.4
55°	645.8	673.2	745.2	815.4	841.1
57.5°	589.3	623.6	702.4	777.7	803.4
60°	531.1	568.7	659.5	738.3	765.8
62.5°	472.8	515.6	618.4	697.2	726.4
65°	414.6	462.5	570.5	654.4	683.5
67.5°	358.0	411.1	525.9	609.9	639.0
70°	292.9	359.8	478.0	560.2	589.3
72.5°	233.0	310.1	431.7	508.8	534.5
75°	179.9	262.1	380.3	450.5	460.8
77.5°	131.9	214.1	327.2	351.2	352.9
80°	89.1	171.3	250.1	246.7	250.1
82.5°	58.2	128.5	157.6	176.4	178.2
85°	34.3	75.4	92.5	102.8	104.5
87.5°	17.1	25.7	32.5	34.3	37.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)