



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-L9-930-XXX-DIM-UNV-OW-OF-CS-TD-XX\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM 13131414.01  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] 01/25/2021  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836  
 [LUMCAT] 4CR-L9-930-xxx-DIM-UNV-OW-OF-CS-TD-xx  
 [LUMINAIRE] Aluminum housing and reflector, no enclosure  
 [LAMP] One white LED  
 [\_SEARCH\_SOURCETYPE] LED  
 [\_SEARCH\_APPLICATION] Indoor, Downlight  
 [\_SEARCH\_MOUNTING] Pendant, Surface, Suspended, Wall

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	492
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	46
Total Luminaire Watts	10.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.04
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.21 ft (Diameter)
Luminous Width (90-270)	0.21 ft (Diameter)
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	13343	13343	13343
55	3798	3798	3798
65	1723	1723	1723
75	533	533	533
85	145	145	145

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CANDELA TABULATION

	<u>0</u>
0.0	398.890
0.5	398.890
1.0	398.890
1.5	399.088
2.0	399.287
2.5	399.485
3.0	399.684
3.5	400.279
4.0	401.072
4.5	402.064
5.0	403.254
5.5	404.642
6.0	405.832
6.5	407.419
7.0	409.006
7.5	410.593
8.0	412.378
8.5	413.767
9.0	414.957
9.5	415.750
10.0	416.544
10.5	417.139
11.0	417.535
11.5	417.734
12.0	417.535
12.5	417.337
13.0	416.742
13.5	416.147
14.0	415.353
14.5	414.758
15.0	413.965
15.5	413.172
16.0	412.180
16.5	411.585
17.0	410.791
17.5	410.196
18.0	409.800
18.5	409.204
19.0	408.213
19.5	406.428
20.0	404.642
20.5	402.262
21.0	399.485
21.5	396.510
22.0	393.535
22.5	389.964
23.0	386.195
23.5	382.030
24.0	377.865
24.5	373.501
25.0	368.740
25.5	363.583
26.0	358.029
26.5	351.880

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CR-L9-930-XXX-DIM-UNV-OW-OF-CS-TD-XX\_.IES****CANDELA TABULATION - (Cont.)**

27.0	345.334
27.5	337.797
28.0	330.656
28.5	323.119
29.0	315.780
29.5	308.441
30.0	300.705
30.5	292.771
31.0	284.638
31.5	276.307
32.0	268.373
32.5	260.042
33.0	251.513
33.5	242.984
34.0	234.058
34.5	225.132
35.0	216.008
35.5	206.487
36.0	196.628
36.5	186.294
37.0	175.246
37.5	163.523
38.0	151.404
38.5	139.046
39.0	126.748
39.5	114.827
40.0	103.481
40.5	92.810
41.0	82.853
41.5	73.550
42.0	64.862
42.5	56.888
43.0	49.688
43.5	43.340
44.0	37.985
44.5	33.522
45.0	29.813
45.5	26.738
46.0	24.179
46.5	21.997
47.0	20.153
47.5	18.566
48.0	17.177
48.5	15.948
49.0	14.857
49.5	13.885
50.0	12.972
50.5	12.159
51.0	11.405
51.5	10.711
52.0	10.076
52.5	9.461
53.0	8.886
53.5	8.331
54.0	7.815
54.5	7.319

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CANDELA TABULATION - (Cont.)

55.0	6.883
55.5	6.486
56.0	6.129
56.5	5.792
57.0	5.494
57.5	5.217
58.0	4.959
58.5	4.721
59.0	4.503
59.5	4.265
60.0	4.066
60.5	3.848
61.0	3.670
61.5	3.471
62.0	3.293
62.5	3.114
63.0	2.955
63.5	2.777
64.0	2.618
64.5	2.460
65.0	2.301
65.5	2.162
66.0	2.023
66.5	1.865
67.0	1.746
67.5	1.607
68.0	1.488
68.5	1.388
69.0	1.269
69.5	1.170
70.0	1.071
70.5	0.992
71.0	0.912
71.5	0.833
72.0	0.754
72.5	0.694
73.0	0.635
73.5	0.575
74.0	0.536
74.5	0.476
75.0	0.436
75.5	0.397
76.0	0.357
76.5	0.337
77.0	0.298
77.5	0.258
78.0	0.238
78.5	0.218
79.0	0.198
79.5	0.179
80.0	0.159
80.5	0.139
81.0	0.119
81.5	0.119
82.0	0.099
82.5	0.079

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CANDELA TABULATION - (Cont.)

83.0	0.079
83.5	0.060
84.0	0.060
84.5	0.060
85.0	0.040
85.5	0.040
86.0	0.040
86.5	0.020
87.0	0.020
87.5	0.020
88.0	0.020
88.5	0.020
89.0	0.020
89.5	0.020
90.0	0.000
90.5	0.000
91.0	0.000
91.5	0.000
92.0	0.000
92.5	0.000
93.0	0.000
93.5	0.000
94.0	0.000
94.5	0.000
95.0	0.000
95.5	0.000
96.0	0.000
96.5	0.000
97.0	0.000
97.5	0.000
98.0	0.000
98.5	0.000
99.0	0.000
99.5	0.000
100.0	0.000
100.5	0.000
101.0	0.000
101.5	0.000
102.0	0.000
102.5	0.000
103.0	0.000
103.5	0.000
104.0	0.000
104.5	0.000
105.0	0.000
105.5	0.000
106.0	0.000
106.5	0.000
107.0	0.000
107.5	0.000
108.0	0.000
108.5	0.000
109.0	0.000
109.5	0.000
110.0	0.000
110.5	0.000

IES INDOOR REPORT  
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CANDELA TABULATION - (Cont.)

111.0	0.000
111.5	0.000
112.0	0.000
112.5	0.000
113.0	0.000
113.5	0.000
114.0	0.000
114.5	0.000
115.0	0.000
115.5	0.000
116.0	0.000
116.5	0.000
117.0	0.000
117.5	0.000
118.0	0.000
118.5	0.000
119.0	0.000
119.5	0.000
120.0	0.000
120.5	0.000
121.0	0.000
121.5	0.000
122.0	0.000
122.5	0.000
123.0	0.000
123.5	0.000
124.0	0.000
124.5	0.000
125.0	0.000
125.5	0.000
126.0	0.000
126.5	0.000
127.0	0.000
127.5	0.000
128.0	0.000
128.5	0.000
129.0	0.000
129.5	0.000
130.0	0.000
130.5	0.000
131.0	0.000
131.5	0.000
132.0	0.000
132.5	0.000
133.0	0.000
133.5	0.000
134.0	0.000
134.5	0.000
135.0	0.000
135.5	0.000
136.0	0.000
136.5	0.000
137.0	0.000
137.5	0.000
138.0	0.000
138.5	0.000

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CR-L9-930-XXX-DIM-UNV-OW-OF-CS-TD-XX\_.IES****CANDELA TABULATION - (Cont.)**

139.0	0.000
139.5	0.000
140.0	0.000
140.5	0.000
141.0	0.000
141.5	0.000
142.0	0.000
142.5	0.000
143.0	0.000
143.5	0.000
144.0	0.000
144.5	0.000
145.0	0.000
145.5	0.000
146.0	0.000
146.5	0.000
147.0	0.000
147.5	0.000
148.0	0.000
148.5	0.000
149.0	0.000
149.5	0.000
150.0	0.000
150.5	0.000
151.0	0.000
151.5	0.000
152.0	0.000
152.5	0.000
153.0	0.000
153.5	0.000
154.0	0.000
154.5	0.000
155.0	0.000
155.5	0.000
156.0	0.000
156.5	0.000
157.0	0.000
157.5	0.000
158.0	0.000
158.5	0.000
159.0	0.000
159.5	0.000
160.0	0.000
160.5	0.000
161.0	0.000
161.5	0.000
162.0	0.000
162.5	0.000
163.0	0.000
163.5	0.000
164.0	0.000
164.5	0.000
165.0	0.000
165.5	0.000
166.0	0.000
166.5	0.000

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**CANDELA TABULATION - (Cont.)**

167.0	0.000
167.5	0.000
168.0	0.000
168.5	0.000
169.0	0.000
169.5	0.000
170.0	0.000
170.5	0.000
171.0	0.000
171.5	0.000
172.0	0.000
172.5	0.000
173.0	0.000
173.5	0.000
174.0	0.000
174.5	0.000
175.0	0.000
175.5	0.000
176.0	0.000
176.5	0.000
177.0	0.000
177.5	0.000
178.0	0.000
178.5	0.000
179.0	0.000
179.5	0.000
180.0	0.000

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CR-L9-930-XXX-DIM-UNV-OW-OF-CS-TD-XX\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	155.97	N.A.	31.70
0-30	322.43	N.A.	65.60
0-40	452.25	N.A.	92.00
0-60	488.77	N.A.	99.40
0-80	491.65	N.A.	100.00
0-90	491.71	N.A.	100.00
10-90	452.71	N.A.	92.10
20-40	296.28	N.A.	60.30
20-50	326.19	N.A.	66.30
40-70	38.88	N.A.	7.90
60-80	2.87	N.A.	0.60
70-80	0.52	N.A.	0.10
80-90	0.06	N.A.	0.00
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	491.71	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	39.00
10-20	116.97
20-30	166.46
30-40	129.82
40-50	29.92
50-60	6.61
60-70	2.35
70-80	0.52
80-90	0.06
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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## COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

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
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	110	108	105	111	108	106	104	104	102	101	100	99	98	97	96	95	93
2	107	102	98	95	105	101	97	94	97	94	91	94	92	89	92	89	88	86
3	102	95	90	86	100	94	89	85	91	87	84	88	85	82	86	83	81	79
4	96	88	82	78	94	87	82	78	85	80	77	83	79	76	81	78	75	73
5	91	82	76	72	89	81	76	71	79	74	71	78	73	70	76	72	69	68
6	86	77	70	66	85	76	70	66	74	69	65	73	68	65	72	68	64	63
7	81	72	65	61	80	71	65	61	70	64	61	69	64	60	67	63	60	58
8	77	67	61	57	76	67	61	57	65	60	56	64	60	56	63	59	56	54
9	73	63	57	53	72	63	57	53	62	56	52	61	56	52	60	55	52	51
10	69	59	53	49	68	59	53	49	58	53	49	57	52	49	57	52	49	47

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## UGR TABLE - CORRECTED

### Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

### Room Size UGR Viewed Crosswise

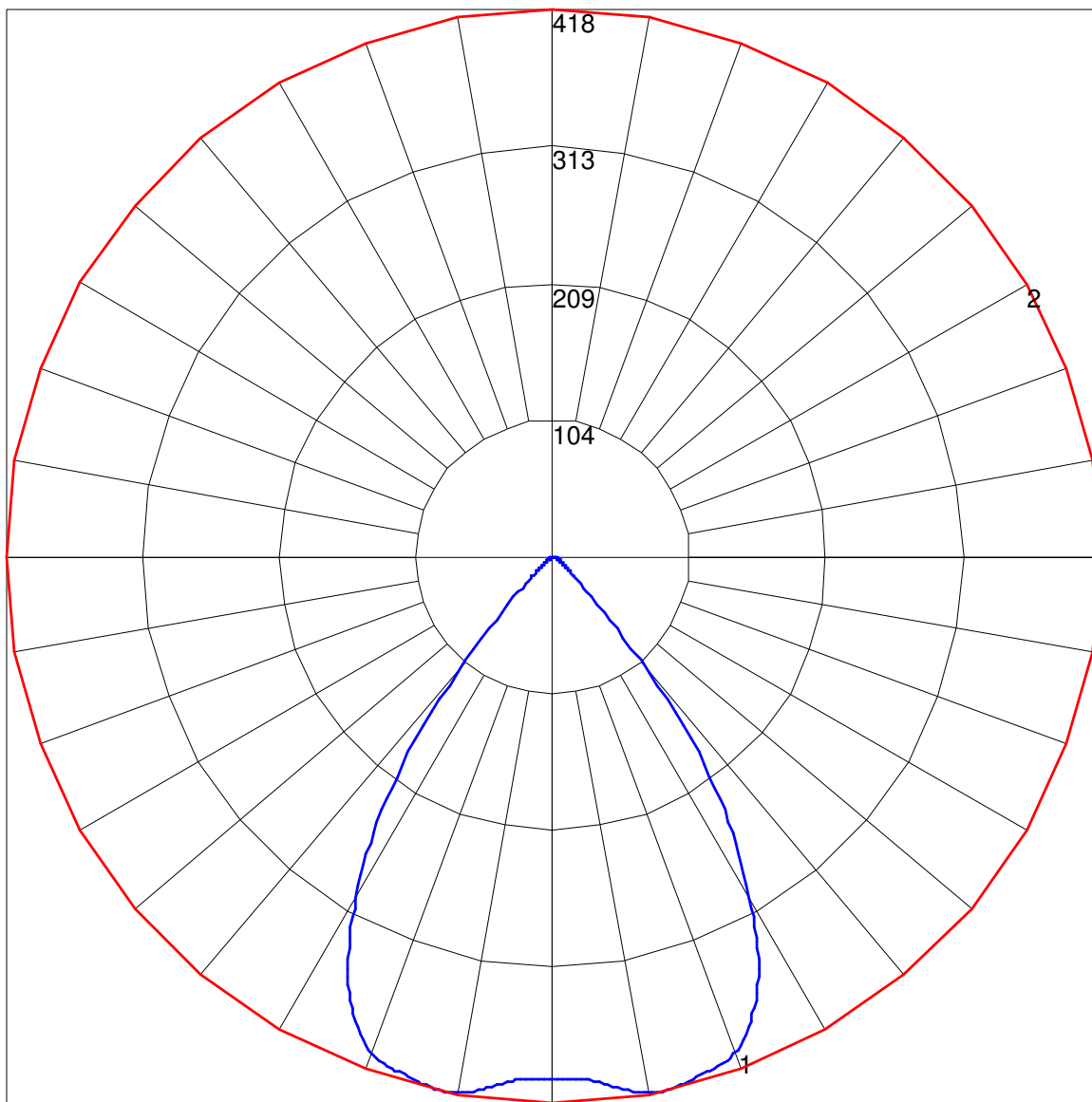
X=2H	Y=2H	6.3	7.3	6.7	7.7	8.0	6.3	7.3	6.7	7.7	8.0
	3H	6.6	7.5	7.0	7.8	8.2	6.6	7.5	7.0	7.8	8.2
	4H	6.6	7.4	7.0	7.7	8.1	6.6	7.4	7.0	7.7	8.1
	6H	6.5	7.2	6.9	7.6	8.0	6.5	7.2	6.9	7.6	8.0
	8H	6.5	7.1	6.9	7.5	7.9	6.5	7.1	6.9	7.5	7.9
	12H	6.4	7.1	6.8	7.4	7.9	6.4	7.1	6.8	7.4	7.9

### UGR Viewed Endwise

4H	2H	6.4	7.2	6.8	7.6	7.9	6.4	7.2	6.8	7.6	7.9
	3H	6.7	7.4	7.1	7.8	8.2	6.7	7.4	7.1	7.8	8.2
	4H	6.7	7.3	7.1	7.7	8.1	6.7	7.3	7.1	7.7	8.1
	6H	6.6	7.1	7.1	7.5	8.0	6.6	7.1	7.1	7.5	8.0
	8H	6.5	7.0	7.0	7.4	7.9	6.5	7.0	7.0	7.4	7.9
	12H	6.5	6.9	7.0	7.4	7.8	6.5	6.9	7.0	7.4	7.8
8H	4H	6.5	7.0	7.0	7.5	7.9	6.5	7.0	7.0	7.5	7.9
	6H	6.4	6.8	7.0	7.3	7.8	6.4	6.8	7.0	7.3	7.8
	8H	6.4	6.7	6.9	7.2	7.7	6.4	6.7	6.9	7.2	7.7
	12H	6.3	6.6	6.8	7.1	7.7	6.3	6.6	6.8	7.1	7.7
12H	4H	6.5	6.9	7.0	7.4	7.8	6.5	6.9	7.0	7.4	7.8
	6H	6.4	6.7	6.9	7.2	7.7	6.4	6.7	6.9	7.2	7.7
	8H	6.3	6.6	6.8	7.1	7.7	6.3	6.6	6.8	7.1	7.7

Maximum UGR = 8.2

POLAR GRAPH



Maximum Candela = 417.734 Located At Horizontal Angle = 0, Vertical Angle = 11.5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (11.5) (Through Max. Cd.)