



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-L9-935-XXX-DIM-UNV-OW-OF-CS-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-L9-935-xxx-DIM-UNV-OW-OF-CS-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	762
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	71
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	20669	20669	20669
55	5883	5883	5883
65	2669	2669	2669
75	827	827	827
85	222	222	222

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CANDELA TABULATION

	<u>0</u>
0.0	617.902
0.5	617.902
1.0	617.902
1.5	618.209
2.0	618.516
2.5	618.824
3.0	619.131
3.5	620.053
4.0	621.282
4.5	622.818
5.0	624.662
5.5	626.812
6.0	628.656
6.5	631.114
7.0	633.572
7.5	636.030
8.0	638.796
8.5	640.946
9.0	642.790
9.5	644.019
10.0	645.248
10.5	646.170
11.0	646.784
11.5	647.092
12.0	646.784
12.5	646.477
13.0	645.555
13.5	644.634
14.0	643.405
14.5	642.483
15.0	641.254
15.5	640.025
16.0	638.488
16.5	637.567
17.0	636.338
17.5	635.416
18.0	634.801
18.5	633.879
19.0	632.343
19.5	629.578
20.0	626.812
20.5	623.125
21.0	618.824
21.5	614.215
22.0	609.606
22.5	604.075
23.0	598.237
23.5	591.785
24.0	585.332
24.5	578.572
25.0	571.198
25.5	563.209
26.0	554.606
26.5	545.081

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**CANDELA TABULATION - (Cont.)**

27.0	534.941
27.5	523.265
28.0	512.204
28.5	500.528
29.0	489.159
29.5	477.791
30.0	465.808
30.5	453.517
31.0	440.920
31.5	428.015
32.0	415.724
32.5	402.819
33.0	389.607
33.5	376.395
34.0	362.568
34.5	348.741
35.0	334.607
35.5	319.859
36.0	304.588
36.5	288.580
37.0	271.465
37.5	253.306
38.0	234.532
38.5	215.390
39.0	196.340
39.5	177.873
40.0	160.298
40.5	143.767
41.0	128.343
41.5	113.932
42.0	100.474
42.5	88.122
43.0	76.969
43.5	67.137
44.0	58.840
44.5	51.927
45.0	46.181
45.5	41.419
46.0	37.455
46.5	34.075
47.0	31.218
47.5	28.760
48.0	26.609
48.5	24.704
49.0	23.014
49.5	21.508
50.0	20.095
50.5	18.835
51.0	17.668
51.5	16.592
52.0	15.609
52.5	14.656
53.0	13.765
53.5	12.905
54.0	12.106
54.5	11.338

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CANDELA TABULATION - (Cont.)

55.0	10.662
55.5	10.047
56.0	9.494
56.5	8.972
57.0	8.511
57.5	8.081
58.0	7.682
58.5	7.313
59.0	6.975
59.5	6.606
60.0	6.299
60.5	5.961
61.0	5.684
61.5	5.377
62.0	5.101
62.5	4.824
63.0	4.578
63.5	4.302
64.0	4.056
64.5	3.810
65.0	3.564
65.5	3.349
66.0	3.134
66.5	2.888
67.0	2.704
67.5	2.489
68.0	2.304
68.5	2.151
69.0	1.966
69.5	1.813
70.0	1.659
70.5	1.536
71.0	1.413
71.5	1.290
72.0	1.168
72.5	1.075
73.0	0.983
73.5	0.891
74.0	0.830
74.5	0.737
75.0	0.676
75.5	0.615
76.0	0.553
76.5	0.522
77.0	0.461
77.5	0.399
78.0	0.369
78.5	0.338
79.0	0.307
79.5	0.277
80.0	0.246
80.5	0.215
81.0	0.184
81.5	0.184
82.0	0.154
82.5	0.123

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CANDELA TABULATION - (Cont.)

83.0	0.123
83.5	0.092
84.0	0.092
84.5	0.092
85.0	0.061
85.5	0.061
86.0	0.061
86.5	0.031
87.0	0.031
87.5	0.031
88.0	0.031
88.5	0.031
89.0	0.031
89.5	0.031
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

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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
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131.5	0.000
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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  
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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



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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	241.61	N.A.	31.70
0-30	499.46	N.A.	65.60
0-40	700.56	N.A.	92.00
0-60	757.14	N.A.	99.40
0-80	761.59	N.A.	100.00
0-90	761.68	N.A.	100.00
10-90	701.27	N.A.	92.10
20-40	458.95	N.A.	60.30
20-50	505.29	N.A.	66.30
40-70	60.22	N.A.	7.90
60-80	4.45	N.A.	0.60
70-80	0.81	N.A.	0.10
80-90	0.10	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	761.68	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	60.41
10-20	181.19
20-30	257.86
30-40	201.09
40-50	46.34
50-60	10.24
60-70	3.64
70-80	0.81
80-90	0.10
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	106	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	90	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	66	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	70	59	53	49	68	59	53	49	58	53	49	57	52	49	57	52	49	47

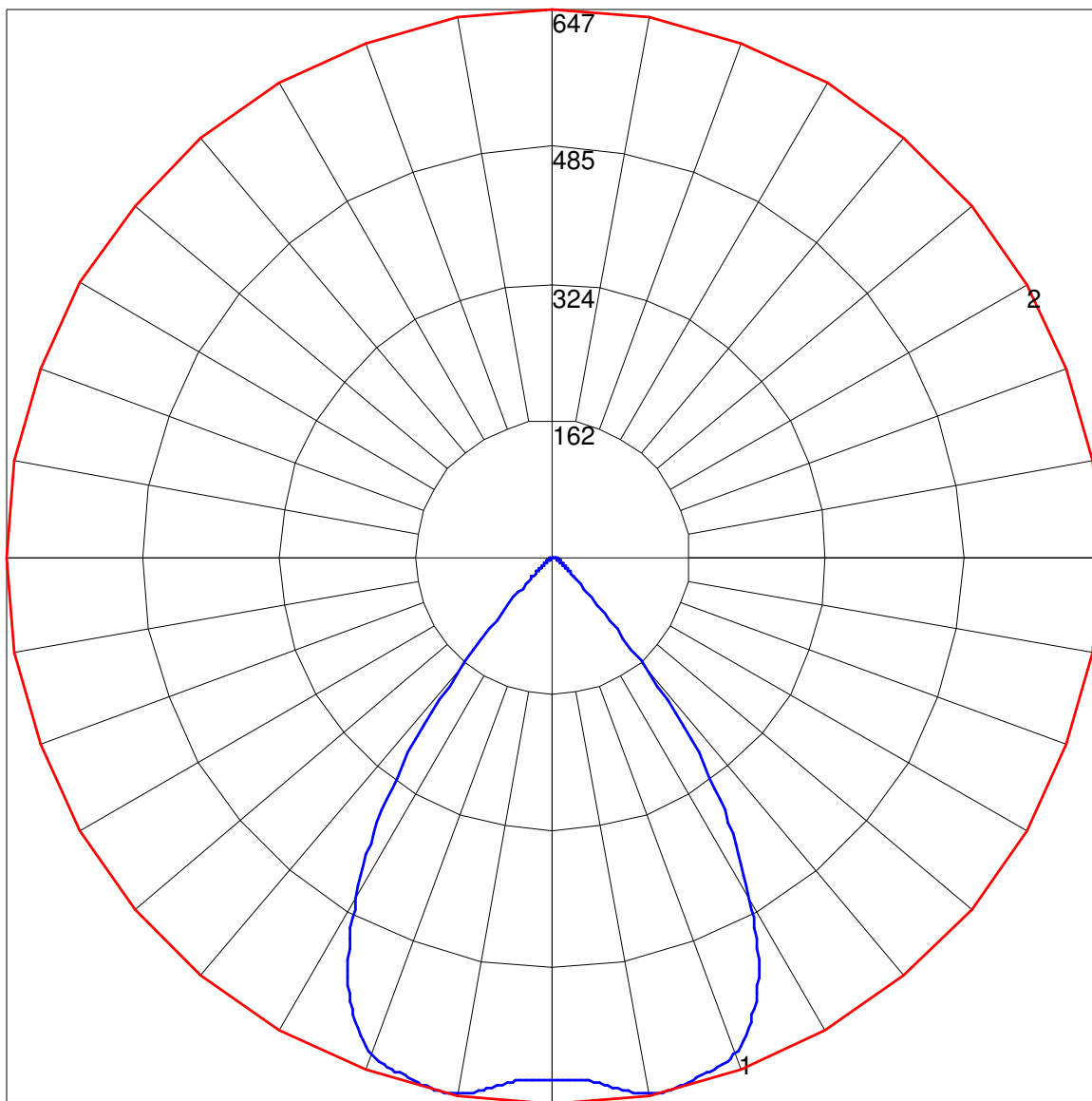
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**UGR TABLE - CORRECTED**

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					UGR Viewed Endwise				
X=2H	Y=2H	7.9	9.0	8.3	9.3	9.6	7.9	9.0	8.3	9.3	9.6
	3H	8.2	9.1	8.6	9.4	9.8	8.2	9.1	8.6	9.4	9.8
	4H	8.2	9.0	8.6	9.3	9.7	8.2	9.0	8.6	9.3	9.7
	6H	8.1	8.8	8.5	9.2	9.6	8.1	8.8	8.5	9.2	9.6
	8H	8.1	8.7	8.5	9.1	9.5	8.1	8.7	8.5	9.1	9.5
	12H	8.0	8.7	8.4	9.0	9.5	8.0	8.7	8.4	9.0	9.5
4H	2H	8.0	8.8	8.4	9.2	9.5	8.0	8.8	8.4	9.2	9.5
	3H	8.3	9.0	8.7	9.4	9.8	8.3	9.0	8.7	9.4	9.8
	4H	8.3	8.9	8.7	9.3	9.7	8.3	8.9	8.7	9.3	9.7
	6H	8.2	8.7	8.7	9.2	9.6	8.2	8.7	8.7	9.2	9.6
	8H	8.1	8.6	8.6	9.0	9.5	8.1	8.6	8.6	9.0	9.5
	12H	8.1	8.5	8.6	9.0	9.4	8.1	8.5	8.6	9.0	9.4
8H	4H	8.1	8.6	8.6	9.1	9.5	8.1	8.6	8.6	9.1	9.5
	6H	8.0	8.4	8.6	8.9	9.4	8.0	8.4	8.6	8.9	9.4
	8H	8.0	8.3	8.5	8.8	9.3	8.0	8.3	8.5	8.8	9.3
	12H	8.0	8.2	8.5	8.7	9.3	8.0	8.2	8.5	8.7	9.3
12H	4H	8.1	8.5	8.6	9.0	9.4	8.1	8.5	8.6	9.0	9.4
	6H	8.0	8.3	8.5	8.8	9.3	8.0	8.3	8.5	8.8	9.3
	8H	8.0	8.2	8.5	8.7	9.3	8.0	8.2	8.5	8.7	9.3

Maximum UGR = 9.8

POLAR GRAPH



Maximum Candela = 647.092 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.)