



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-L12-940-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-L12-940-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	671
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	47
Total Luminaire Watts	14.3
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	18208	18208	18208
55	5182	5182	5182
65	2351	2351	2351
75	728	728	728
85	196	196	196

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CANDELA TABULATION

	<u>0</u>
0.0	544.325
0.5	544.325
1.0	544.325
1.5	544.595
2.0	544.866
2.5	545.137
3.0	545.407
3.5	546.220
4.0	547.302
4.5	548.656
5.0	550.280
5.5	552.174
6.0	553.798
6.5	555.964
7.0	558.129
7.5	560.295
8.0	562.731
8.5	564.625
9.0	566.249
9.5	567.332
10.0	568.415
10.5	569.227
11.0	569.768
11.5	570.039
12.0	569.768
12.5	569.497
13.0	568.685
13.5	567.873
14.0	566.791
14.5	565.979
15.0	564.896
15.5	563.813
16.0	562.460
16.5	561.648
17.0	560.565
17.5	559.753
18.0	559.212
18.5	558.400
19.0	557.046
19.5	554.610
20.0	552.174
20.5	548.926
21.0	545.137
21.5	541.077
22.0	537.017
22.5	532.144
23.0	527.002
23.5	521.318
24.0	515.633
24.5	509.679
25.0	503.182
25.5	496.145
26.0	488.566
26.5	480.175

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CR-L12-940-XXX-DIM-UNV-OW-OF-CS-TD-XX\_.IES****CANDELA TABULATION - (Cont.)**

27.0	471.243
27.5	460.957
28.0	451.213
28.5	440.927
29.0	430.913
29.5	420.898
30.0	410.341
30.5	399.514
31.0	388.417
31.5	377.048
32.0	366.222
32.5	354.853
33.0	343.214
33.5	331.575
34.0	319.395
34.5	307.215
35.0	294.764
35.5	281.771
36.0	268.319
36.5	254.217
37.0	239.140
37.5	223.143
38.0	206.605
38.5	189.742
39.0	172.960
39.5	156.693
40.0	141.210
40.5	126.648
41.0	113.060
41.5	100.366
42.0	88.510
42.5	77.629
43.0	67.804
43.5	59.142
44.0	51.834
44.5	45.744
45.0	40.682
45.5	36.487
46.0	32.995
46.5	30.018
47.0	27.500
47.5	25.335
48.0	23.440
48.5	21.762
49.0	20.273
49.5	18.947
50.0	17.702
50.5	16.592
51.0	15.564
51.5	14.616
52.0	13.750
52.5	12.911
53.0	12.126
53.5	11.368
54.0	10.665
54.5	9.988

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55.0	9.392
55.5	8.851
56.0	8.364
56.5	7.904
57.0	7.498
57.5	7.119
58.0	6.767
58.5	6.442
59.0	6.144
59.5	5.819
60.0	5.549
60.5	5.251
61.0	5.007
61.5	4.737
62.0	4.493
62.5	4.250
63.0	4.033
63.5	3.789
64.0	3.573
64.5	3.356
65.0	3.140
65.5	2.950
66.0	2.761
66.5	2.544
67.0	2.382
67.5	2.192
68.0	2.030
68.5	1.895
69.0	1.732
69.5	1.597
70.0	1.462
70.5	1.353
71.0	1.245
71.5	1.137
72.0	1.029
72.5	0.947
73.0	0.866
73.5	0.785
74.0	0.731
74.5	0.650
75.0	0.595
75.5	0.541
76.0	0.487
76.5	0.460
77.0	0.406
77.5	0.352
78.0	0.325
78.5	0.298
79.0	0.271
79.5	0.244
80.0	0.217
80.5	0.189
81.0	0.162
81.5	0.162
82.0	0.135
82.5	0.108

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CANDELA TABULATION - (Cont.)

83.0	0.108
83.5	0.081
84.0	0.081
84.5	0.081
85.0	0.054
85.5	0.054
86.0	0.054
86.5	0.027
87.0	0.027
87.5	0.027
88.0	0.027
88.5	0.027
89.0	0.027
89.5	0.027
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

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

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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



**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 4CR-L12-940-XXX-DIM-UNV-OW-OF-CS-TD-XX\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	212.84	N.A.	31.70
0-30	439.99	N.A.	65.60
0-40	617.14	N.A.	92.00
0-60	666.98	N.A.	99.40
0-80	670.90	N.A.	100.00
0-90	670.99	N.A.	100.00
10-90	617.77	N.A.	92.10
20-40	404.30	N.A.	60.30
20-50	445.12	N.A.	66.30
40-70	53.05	N.A.	7.90
60-80	3.92	N.A.	0.60
70-80	0.71	N.A.	0.10
80-90	0.09	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	670.99	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	53.22
10-20	159.62
20-30	227.15
30-40	177.15
40-50	40.82
50-60	9.02
60-70	3.21
70-80	0.71
80-90	0.09
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	92	94	92	90	92	90	88	86
3	102	95	90	86	100	94	89	85	91	87	84	88	85	82	86	83	81	79
4	96	88	83	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	71	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

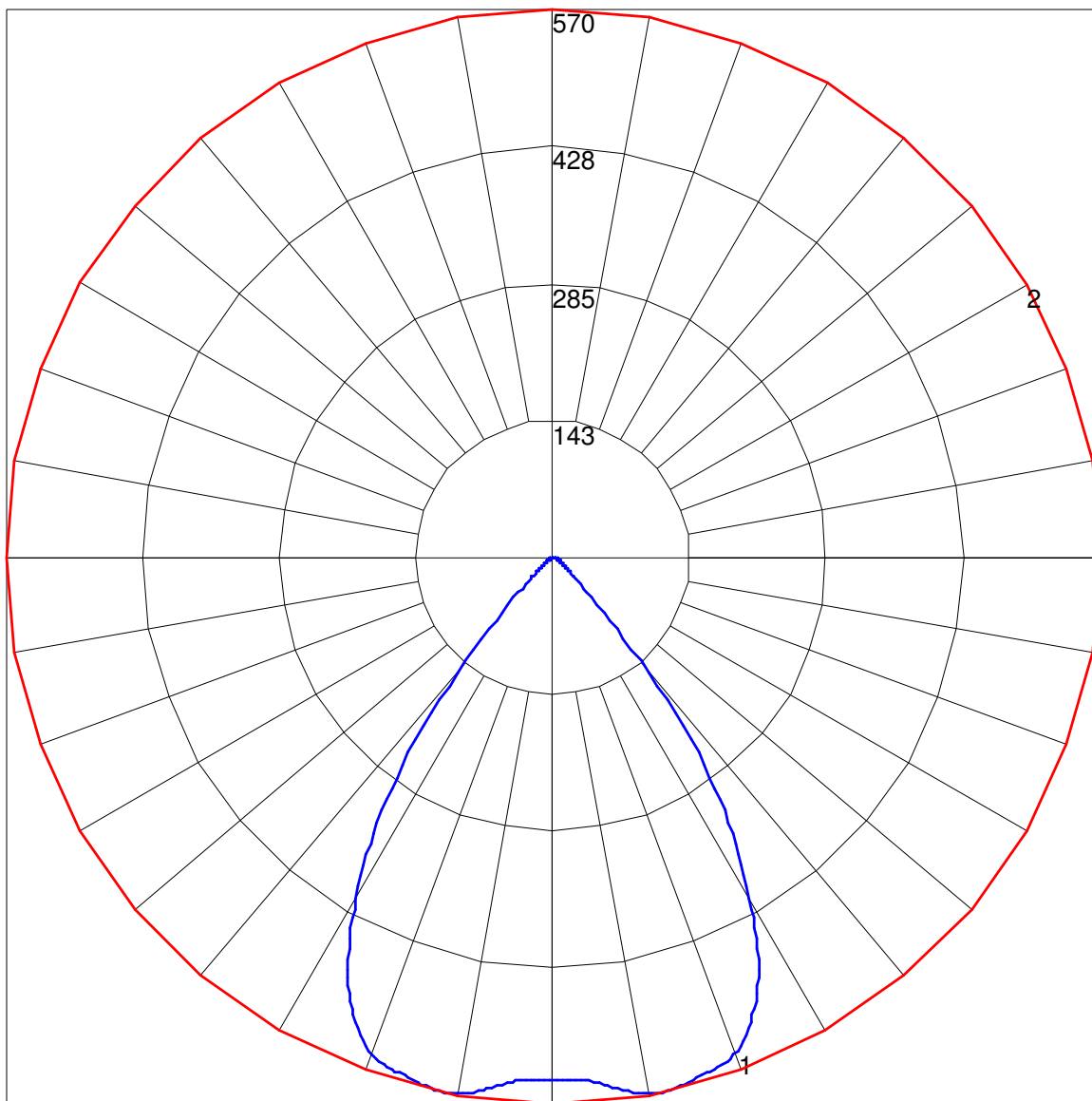
X=2H	Y=2H	7.4	8.4	7.8	8.8	9.1	7.4	8.4	7.8	8.8	9.1
	3H	7.7	8.6	8.1	8.9	9.3	7.7	8.6	8.1	8.9	9.3
	4H	7.7	8.5	8.1	8.8	9.2	7.7	8.5	8.1	8.8	9.2
	6H	7.6	8.3	8.0	8.7	9.1	7.6	8.3	8.0	8.7	9.1
	8H	7.6	8.2	8.0	8.6	9.0	7.6	8.2	8.0	8.6	9.0
	12H	7.5	8.2	7.9	8.5	9.0	7.5	8.2	7.9	8.5	9.0

### UGR Viewed Endwise

4H	2H	7.5	8.3	7.9	8.7	9.0	7.5	8.3	7.9	8.7	9.0
	3H	7.8	8.5	8.2	8.9	9.3	7.8	8.5	8.2	8.9	9.3
	4H	7.8	8.4	8.2	8.8	9.2	7.8	8.4	8.2	8.8	9.2
	6H	7.7	8.2	8.2	8.6	9.1	7.7	8.2	8.2	8.6	9.1
	8H	7.6	8.1	8.1	8.5	9.0	7.6	8.1	8.1	8.5	9.0
	12H	7.6	8.0	8.1	8.5	8.9	7.6	8.0	8.1	8.5	8.9
8H	4H	7.6	8.1	8.1	8.6	9.0	7.6	8.1	8.1	8.6	9.0
	6H	7.5	7.9	8.1	8.4	8.9	7.5	7.9	8.1	8.4	8.9
	8H	7.5	7.8	8.0	8.3	8.8	7.5	7.8	8.0	8.3	8.8
	12H	7.4	7.7	7.9	8.2	8.8	7.4	7.7	7.9	8.2	8.8
12H	4H	7.6	8.0	8.1	8.5	8.9	7.6	8.0	8.1	8.5	8.9
	6H	7.5	7.8	8.0	8.3	8.8	7.5	7.8	8.0	8.3	8.8
	8H	7.4	7.7	7.9	8.2	8.8	7.4	7.7	7.9	8.2	8.8

Maximum UGR = 9.3

POLAR GRAPH



Maximum Candela = 570.039 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.)