



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4CR-L25-835-XXX-DIM-UNV-OM-OF-SG-XX\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] 13131414.08  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] 01/25/2021  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO. 64836  
 [LUMCAT] 4CR-L25-835-xxx-DIM-UNV-OM-OF-SG-xx  
 [LUMINAIRE] Aluminum housing and reflector, no lens 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	2124
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	71
Total Luminaire Watts	30.0498
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.62
Spacing Criterion (90-270)	0.62
Spacing Criterion (Diagonal)	0.68
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	59661	59661	59661
55	20250	20250	20250
65	7114	7114	7114
75	2935	2935	2935
85	1089	1089	1089

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CANDELA TABULATION

	<u>0</u>
0.0	4241.0
0.5	4237.0
1.0	4226.0
1.5	4206.0
2.0	4177.0
2.5	4139.0
3.0	4094.0
3.5	4040.0
4.0	3980.0
4.5	3915.0
5.0	3847.0
5.5	3775.0
6.0	3698.0
6.5	3619.0
7.0	3541.0
7.5	3466.0
8.0	3394.0
8.5	3325.0
9.0	3258.0
9.5	3193.0
10.0	3130.0
10.5	3067.0
11.0	3005.0
11.5	2947.0
12.0	2891.0
12.5	2837.0
13.0	2786.0
13.5	2736.0
14.0	2687.0
14.5	2640.0
15.0	2594.0
15.5	2547.0
16.0	2501.0
16.5	2455.0
17.0	2410.0
17.5	2367.0
18.0	2325.0
18.5	2283.0
19.0	2242.0
19.5	2201.0
20.0	2158.0
20.5	2114.0
21.0	2068.0
21.5	2020.0
22.0	1968.0
22.5	1913.0
23.0	1852.0
23.5	1786.0
24.0	1715.0
24.5	1640.0
25.0	1561.0
25.5	1478.0
26.0	1392.0
26.5	1303.0

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	1212.0
<b>27.5</b>	1122.0
<b>28.0</b>	1033.0
<b>28.5</b>	946.9
<b>29.0</b>	864.9
<b>29.5</b>	789.5
<b>30.0</b>	719.2
<b>30.5</b>	655.1
<b>31.0</b>	595.7
<b>31.5</b>	542.8
<b>32.0</b>	495.9
<b>32.5</b>	455.4
<b>33.0</b>	420.4
<b>33.5</b>	391.1
<b>34.0</b>	365.4
<b>34.5</b>	343.7
<b>35.0</b>	325.9
<b>35.5</b>	310.8
<b>36.0</b>	297.5
<b>36.5</b>	284.7
<b>37.0</b>	272.5
<b>37.5</b>	260.8
<b>38.0</b>	250.0
<b>38.5</b>	239.3
<b>39.0</b>	229.3
<b>39.5</b>	219.6
<b>40.0</b>	210.2
<b>40.5</b>	201.2
<b>41.0</b>	192.6
<b>41.5</b>	184.3
<b>42.0</b>	176.3
<b>42.5</b>	168.6
<b>43.0</b>	161.2
<b>43.5</b>	153.9
<b>44.0</b>	146.9
<b>44.5</b>	140.0
<b>45.0</b>	133.3
<b>45.5</b>	126.4
<b>46.0</b>	119.7
<b>46.5</b>	113.3
<b>47.0</b>	107.1
<b>47.5</b>	101.1
<b>48.0</b>	95.4
<b>48.5</b>	90.0
<b>49.0</b>	84.7
<b>49.5</b>	79.5
<b>50.0</b>	74.5
<b>50.5</b>	69.7
<b>51.0</b>	64.9
<b>51.5</b>	60.4
<b>52.0</b>	56.2
<b>52.5</b>	52.3
<b>53.0</b>	48.7
<b>53.5</b>	45.3
<b>54.0</b>	42.2
<b>54.5</b>	39.4

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CANDELA TABULATION - (Cont.)

55.0	36.7
55.5	34.3
56.0	31.9
56.5	29.8
57.0	27.8
57.5	26.0
58.0	24.3
58.5	22.6
59.0	21.2
59.5	19.8
60.0	18.5
60.5	17.3
61.0	16.1
61.5	15.1
62.0	14.1
62.5	13.2
63.0	12.4
63.5	11.6
64.0	10.8
64.5	10.2
65.0	9.5
65.5	8.9
66.0	8.3
66.5	7.8
67.0	7.3
67.5	6.8
68.0	6.4
68.5	6.0
69.0	5.6
69.5	5.2
70.0	4.8
70.5	4.5
71.0	4.2
71.5	3.9
72.0	3.7
72.5	3.4
73.0	3.2
73.5	2.9
74.0	2.7
74.5	2.6
75.0	2.4
75.5	2.2
76.0	2.0
76.5	1.9
77.0	1.7
77.5	1.6
78.0	1.5
78.5	1.3
79.0	1.2
79.5	1.1
80.0	1.0
80.5	0.9
81.0	0.8
81.5	0.8
82.0	0.7
82.5	0.6

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CANDELA TABULATION - (Cont.)

83.0	0.6
83.5	0.5
84.0	0.4
84.5	0.4
85.0	0.3
85.5	0.3
86.0	0.3
86.5	0.2
87.0	0.2
87.5	0.1
88.0	0.1
88.5	0.1
89.0	0.1
89.5	0.1
90.0	0.1
90.5	0.0
91.0	0.0
91.5	0.0
92.0	0.0
92.5	0.0
93.0	0.0
93.5	0.0
94.0	0.0
94.5	0.0
95.0	0.0
95.5	0.0
96.0	0.0
96.5	0.0
97.0	0.0
97.5	0.0
98.0	0.0
98.5	0.0
99.0	0.0
99.5	0.0
100.0	0.0
100.5	0.0
101.0	0.0
101.5	0.0
102.0	0.0
102.5	0.0
103.0	0.0
103.5	0.0
104.0	0.0
104.5	0.0
105.0	0.0
105.5	0.0
106.0	0.0
106.5	0.0
107.0	0.0
107.5	0.0
108.0	0.0
108.5	0.0
109.0	0.0
109.5	0.0
110.0	0.0
110.5	0.0

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CANDELA TABULATION - (Cont.)

111.0	0.0
111.5	0.0
112.0	0.0
112.5	0.0
113.0	0.0
113.5	0.0
114.0	0.0
114.5	0.0
115.0	0.0
115.5	0.0
116.0	0.0
116.5	0.0
117.0	0.0
117.5	0.0
118.0	0.0
118.5	0.0
119.0	0.0
119.5	0.0
120.0	0.0
120.5	0.0
121.0	0.0
121.5	0.0
122.0	0.0
122.5	0.0
123.0	0.0
123.5	0.0
124.0	0.0
124.5	0.0
125.0	0.0
125.5	0.0
126.0	0.0
126.5	0.0
127.0	0.0
127.5	0.0
128.0	0.0
128.5	0.0
129.0	0.0
129.5	0.0
130.0	0.0
130.5	0.0
131.0	0.0
131.5	0.0
132.0	0.0
132.5	0.0
133.0	0.0
133.5	0.0
134.0	0.0
134.5	0.0
135.0	0.0
135.5	0.0
136.0	0.0
136.5	0.0
137.0	0.0
137.5	0.0
138.0	0.0
138.5	0.0

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CANDELA TABULATION - (Cont.)

139.0	0.0
139.5	0.0
140.0	0.0
140.5	0.0
141.0	0.0
141.5	0.0
142.0	0.0
142.5	0.0
143.0	0.0
143.5	0.0
144.0	0.0
144.5	0.0
145.0	0.0
145.5	0.0
146.0	0.0
146.5	0.0
147.0	0.0
147.5	0.0
148.0	0.0
148.5	0.0
149.0	0.0
149.5	0.0
150.0	0.0
150.5	0.0
151.0	0.0
151.5	0.0
152.0	0.0
152.5	0.0
153.0	0.0
153.5	0.0
154.0	0.0
154.5	0.0
155.0	0.0
155.5	0.0
156.0	0.0
156.5	0.0
157.0	0.0
157.5	0.0
158.0	0.0
158.5	0.0
159.0	0.0
159.5	0.0
160.0	0.0
160.5	0.0
161.0	0.0
161.5	0.0
162.0	0.0
162.5	0.0
163.0	0.0
163.5	0.0
164.0	0.0
164.5	0.0
165.0	0.0
165.5	0.0
166.0	0.0
166.5	0.0

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CANDELA TABULATION - (Cont.)

167.0	0.0
167.5	0.0
168.0	0.0
168.5	0.0
169.0	0.0
169.5	0.0
170.0	0.0
170.5	0.0
171.0	0.0
171.5	0.0
172.0	0.0
172.5	0.0
173.0	0.0
173.5	0.0
174.0	0.0
174.5	0.0
175.0	0.0
175.5	0.0
176.0	0.0
176.5	0.0
177.0	0.0
177.5	0.0
178.0	0.0
178.5	0.0
179.0	0.0
179.5	0.0
180.0	0.0



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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1067.11	N.A.	50.20
0-30	1744.66	N.A.	82.10
0-40	1971.87	N.A.	92.80
0-60	2110.98	N.A.	99.40
0-80	2123.7	N.A.	100.00
0-90	2124.14	N.A.	100.00
10-90	1781.73	N.A.	83.90
20-40	904.76	N.A.	42.60
20-50	1008.48	N.A.	47.50
40-70	149.16	N.A.	7.00
60-80	12.72	N.A.	0.60
70-80	2.68	N.A.	0.10
80-90	0.44	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	2124.14	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	342.41
10-20	724.70
20-30	677.55
30-40	227.21
40-50	103.72
50-60	35.39
60-70	10.05
70-80	2.68
80-90	0.44
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	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	109	104	101	97	107	103	99	96	99	97	94	96	94	92	94	92	90	89
3	104	98	93	90	102	97	92	89	94	91	88	92	89	86	89	87	85	83
4	99	92	87	83	98	91	87	83	89	85	82	87	84	81	85	82	80	79
5	95	87	82	78	93	86	81	78	85	80	77	83	79	76	81	78	76	74
6	91	83	77	73	89	82	77	73	80	76	72	79	75	72	78	74	72	70
7	87	78	73	69	86	78	73	69	77	72	69	75	71	68	74	71	68	67
8	83	75	69	65	82	74	69	65	73	68	65	72	68	65	71	67	64	63
9	80	71	66	62	79	71	65	62	70	65	62	69	65	62	68	64	61	60
10	77	68	63	59	76	67	62	59	67	62	59	66	62	59	65	61	59	57

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## UGR TABLE - CORRECTED

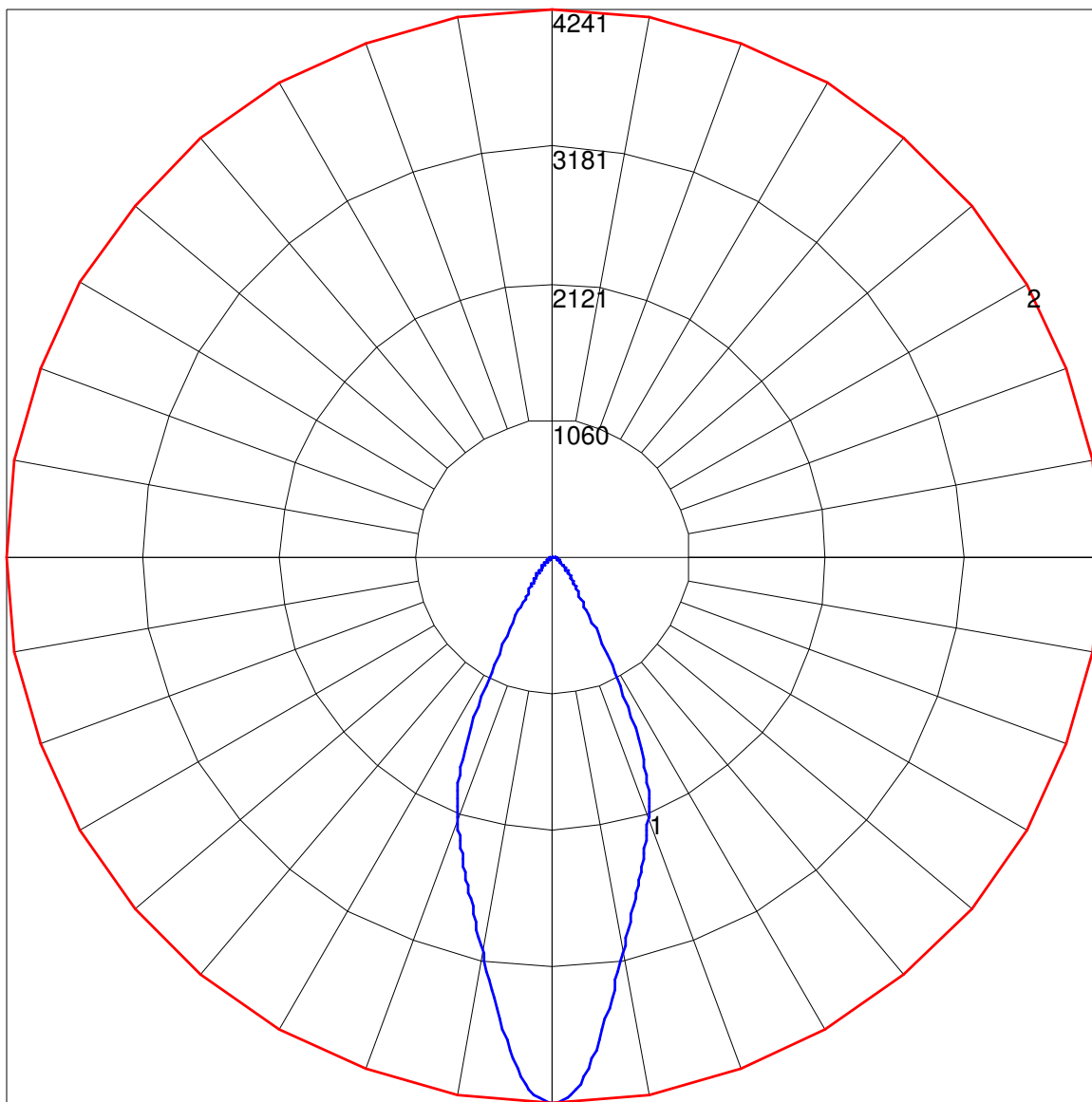
### Reflectances

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	12.5	13.5	12.8	13.8	14.1	12.5	13.5	12.8	13.8	14.1
	3H	12.6	13.5	13.0	13.8	14.2	12.6	13.5	13.0	13.8	14.2
	4H	12.6	13.4	13.0	13.8	14.2	12.6	13.4	13.0	13.8	14.2
	6H	12.5	13.3	12.9	13.6	14.0	12.5	13.3	12.9	13.6	14.0
	8H	12.5	13.2	12.9	13.6	14.0	12.5	13.2	12.9	13.6	14.0
	12H	12.4	13.1	12.9	13.5	13.9	12.4	13.1	12.9	13.5	13.9
4H	2H	12.4	13.2	12.8	13.6	14.0	12.4	13.2	12.8	13.6	14.0
	3H	12.6	13.3	13.1	13.7	14.1	12.6	13.3	13.1	13.7	14.1
	4H	12.6	13.2	13.1	13.6	14.1	12.6	13.2	13.1	13.6	14.1
	6H	12.6	13.1	13.0	13.5	14.0	12.6	13.1	13.0	13.5	14.0
	8H	12.5	13.0	13.0	13.4	13.9	12.5	13.0	13.0	13.4	13.9
	12H	12.4	12.9	12.9	13.3	13.8	12.4	12.9	12.9	13.3	13.8
8H	4H	12.5	13.0	13.0	13.4	13.9	12.5	13.0	13.0	13.4	13.9
	6H	12.4	12.8	12.9	13.3	13.8	12.4	12.8	12.9	13.3	13.8
	8H	12.4	12.7	12.9	13.2	13.7	12.4	12.7	12.9	13.2	13.7
	12H	12.4	12.6	12.9	13.1	13.7	12.4	12.6	12.9	13.1	13.7
12H	4H	12.4	12.8	12.9	13.3	13.8	12.4	12.8	12.9	13.3	13.8
	6H	12.4	12.7	12.9	13.2	13.7	12.4	12.7	12.9	13.2	13.7
	8H	12.4	12.6	12.9	13.1	13.7	12.4	12.6	12.9	13.1	13.7

Maximum UGR = 14.2

POLAR GRAPH



Maximum Candela = 4241 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)