



## IES INDOOR REPORT

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

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] 13131414.01  
 [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-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	2479
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	82
Total Luminaire Watts	30.1187
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	67270	67270	67270
55	19146	19146	19146
65	8687	8687	8687
75	2690	2690	2690
85	726	726	726

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CANDELA TABULATION

	<u>0</u>
0.0	2011.0
0.5	2011.0
1.0	2011.0
1.5	2012.0
2.0	2013.0
2.5	2014.0
3.0	2015.0
3.5	2018.0
4.0	2022.0
4.5	2027.0
5.0	2033.0
5.5	2040.0
6.0	2046.0
6.5	2054.0
7.0	2062.0
7.5	2070.0
8.0	2079.0
8.5	2086.0
9.0	2092.0
9.5	2096.0
10.0	2100.0
10.5	2103.0
11.0	2105.0
11.5	2106.0
12.0	2105.0
12.5	2104.0
13.0	2101.0
13.5	2098.0
14.0	2094.0
14.5	2091.0
15.0	2087.0
15.5	2083.0
16.0	2078.0
16.5	2075.0
17.0	2071.0
17.5	2068.0
18.0	2066.0
18.5	2063.0
19.0	2058.0
19.5	2049.0
20.0	2040.0
20.5	2028.0
21.0	2014.0
21.5	1999.0
22.0	1984.0
22.5	1966.0
23.0	1947.0
23.5	1926.0
24.0	1905.0
24.5	1883.0
25.0	1859.0
25.5	1833.0
26.0	1805.0
26.5	1774.0

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	1741.0
<b>27.5</b>	1703.0
<b>28.0</b>	1667.0
<b>28.5</b>	1629.0
<b>29.0</b>	1592.0
<b>29.5</b>	1555.0
<b>30.0</b>	1516.0
<b>30.5</b>	1476.0
<b>31.0</b>	1435.0
<b>31.5</b>	1393.0
<b>32.0</b>	1353.0
<b>32.5</b>	1311.0
<b>33.0</b>	1268.0
<b>33.5</b>	1225.0
<b>34.0</b>	1180.0
<b>34.5</b>	1135.0
<b>35.0</b>	1089.0
<b>35.5</b>	1041.0
<b>36.0</b>	991.3
<b>36.5</b>	939.2
<b>37.0</b>	883.5
<b>37.5</b>	824.4
<b>38.0</b>	763.3
<b>38.5</b>	701.0
<b>39.0</b>	639.0
<b>39.5</b>	578.9
<b>40.0</b>	521.7
<b>40.5</b>	467.9
<b>41.0</b>	417.7
<b>41.5</b>	370.8
<b>42.0</b>	327.0
<b>42.5</b>	286.8
<b>43.0</b>	250.5
<b>43.5</b>	218.5
<b>44.0</b>	191.5
<b>44.5</b>	169.0
<b>45.0</b>	150.3
<b>45.5</b>	134.8
<b>46.0</b>	121.9
<b>46.5</b>	110.9
<b>47.0</b>	101.6
<b>47.5</b>	93.6
<b>48.0</b>	86.6
<b>48.5</b>	80.4
<b>49.0</b>	74.9
<b>49.5</b>	70.0
<b>50.0</b>	65.4
<b>50.5</b>	61.3
<b>51.0</b>	57.5
<b>51.5</b>	54.0
<b>52.0</b>	50.8
<b>52.5</b>	47.7
<b>53.0</b>	44.8
<b>53.5</b>	42.0
<b>54.0</b>	39.4
<b>54.5</b>	36.9

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CANDELA TABULATION - (Cont.)

55.0	34.7
55.5	32.7
56.0	30.9
56.5	29.2
57.0	27.7
57.5	26.3
58.0	25.0
58.5	23.8
59.0	22.7
59.5	21.5
60.0	20.5
60.5	19.4
61.0	18.5
61.5	17.5
62.0	16.6
62.5	15.7
63.0	14.9
63.5	14.0
64.0	13.2
64.5	12.4
65.0	11.6
65.5	10.9
66.0	10.2
66.5	9.4
67.0	8.8
67.5	8.1
68.0	7.5
68.5	7.0
69.0	6.4
69.5	5.9
70.0	5.4
70.5	5.0
71.0	4.6
71.5	4.2
72.0	3.8
72.5	3.5
73.0	3.2
73.5	2.9
74.0	2.7
74.5	2.4
75.0	2.2
75.5	2.0
76.0	1.8
76.5	1.7
77.0	1.5
77.5	1.3
78.0	1.2
78.5	1.1
79.0	1.0
79.5	0.9
80.0	0.8
80.5	0.7
81.0	0.6
81.5	0.6
82.0	0.5
82.5	0.4

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CANDELA TABULATION - (Cont.)

83.0	0.4
83.5	0.3
84.0	0.3
84.5	0.3
85.0	0.2
85.5	0.2
86.0	0.2
86.5	0.1
87.0	0.1
87.5	0.1
88.0	0.1
88.5	0.1
89.0	0.1
89.5	0.1
90.0	0.0
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	786.32	N.A.	31.70
0-30	1625.53	N.A.	65.60
0-40	2280.00	N.A.	92.00
0-60	2464.15	N.A.	99.40
0-80	2478.63	N.A.	100.00
0-90	2478.95	N.A.	100.00
10-90	2282.34	N.A.	92.10
20-40	1493.68	N.A.	60.30
20-50	1644.5	N.A.	66.30
40-70	196.00	N.A.	7.90
60-80	14.49	N.A.	0.60
70-80	2.63	N.A.	0.10
80-90	0.32	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	2478.95	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	196.61
10-20	589.71
20-30	839.21
30-40	654.47
40-50	150.82
50-60	33.33
60-70	11.86
70-80	2.63
80-90	0.32
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

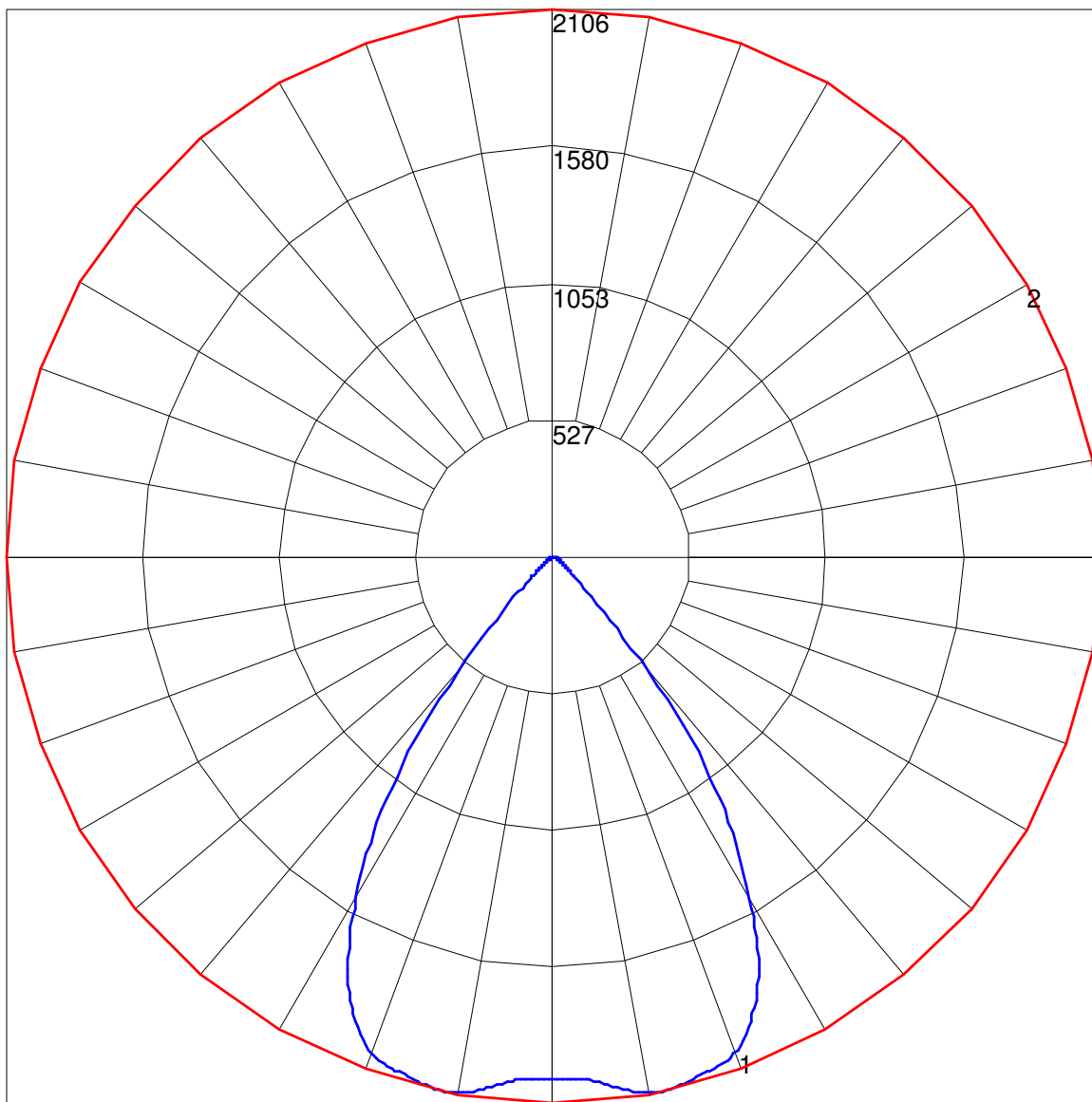
### Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	12.0	13.0	12.4	13.4	13.7	12.0	13.0	12.4	13.4	13.7
	3H	12.3	13.2	12.7	13.5	13.9	12.3	13.2	12.7	13.5	13.9
	4H	12.3	13.1	12.7	13.4	13.8	12.3	13.1	12.7	13.4	13.8
	6H	12.2	12.9	12.6	13.3	13.7	12.2	12.9	12.6	13.3	13.7
	8H	12.1	12.8	12.6	13.2	13.6	12.1	12.8	12.6	13.2	13.6
	12H	12.1	12.7	12.5	13.1	13.6	12.1	12.7	12.5	13.1	13.6
4H	2H	12.1	12.9	12.5	13.3	13.6	12.1	12.9	12.5	13.3	13.6
	3H	12.4	13.1	12.8	13.5	13.9	12.4	13.1	12.8	13.5	13.9
	4H	12.4	13.0	12.8	13.4	13.8	12.4	13.0	12.8	13.4	13.8
	6H	12.3	12.8	12.7	13.2	13.7	12.3	12.8	12.7	13.2	13.7
	8H	12.2	12.7	12.7	13.1	13.6	12.2	12.7	12.7	13.1	13.6
	12H	12.2	12.6	12.7	13.1	13.5	12.2	12.6	12.7	13.1	13.5
8H	4H	12.2	12.7	12.7	13.1	13.6	12.2	12.7	12.7	13.1	13.6
	6H	12.1	12.5	12.7	13.0	13.5	12.1	12.5	12.7	13.0	13.5
	8H	12.1	12.4	12.6	12.9	13.4	12.1	12.4	12.6	12.9	13.4
	12H	12.0	12.3	12.5	12.8	13.4	12.0	12.3	12.5	12.8	13.4
12H	4H	12.2	12.6	12.7	13.1	13.5	12.2	12.6	12.7	13.1	13.5
	6H	12.1	12.4	12.6	12.9	13.4	12.1	12.4	12.6	12.9	13.4
	8H	12.0	12.3	12.5	12.8	13.4	12.0	12.3	12.5	12.8	13.4

Maximum UGR = 13.9

POLAR GRAPH



Maximum Candela = 2106 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.)