



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : V6DR-L16-835-DIM-UNV-RN-OF-WH\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from 12326812.15

[TESTLAB] UL Verification Services Inc.

[ISSUEDATE] 9 SEP 2021

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.

[LUMCAT] V6DR-L16-835-DIM-UNV-RN-OF-WH

[LUMINAIRE] Black formed aluminum housing, white reflector, clear plas

[MORE] tic optic, clear glass patterned lens enclosure

[LAMP] One white LED

[ SEARCH\_SOURCETYPE] LED

[ SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Commercial, Healthcare, Office, Downlight

[ SEARCH\_MOUNTING] Recessed

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1812
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
Total Luminaire Watts	20.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.44
Spacing Criterion (90-270)	0.44
Spacing Criterion (Diagonal)	0.46
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.48 ft (Diameter)
Luminous Width (90-270)	0.48 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	5933	5933	5933
55	3881	3881	3881
65	2641	2641	2641
75	1706	1706	1706
85	1369	1369	1369

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CANDELA TABULATION

	<u>0</u>
0.0	6729.0
0.5	6723.0
1.0	6704.0
1.5	6671.0
2.0	6625.0
2.5	6565.0
3.0	6493.0
3.5	6410.0
4.0	6317.0
4.5	6213.0
5.0	6100.0
5.5	5976.0
6.0	5842.0
6.5	5700.0
7.0	5550.0
7.5	5392.0
8.0	5227.0
8.5	5056.0
9.0	4878.0
9.5	4696.0
10.0	4509.0
10.5	4321.0
11.0	4131.0
11.5	3940.0
12.0	3750.0
12.5	3560.0
13.0	3374.0
13.5	3188.0
14.0	3008.0
14.5	2833.0
15.0	2662.0
15.5	2499.0
16.0	2344.0
16.5	2197.0
17.0	2055.0
17.5	1920.0
18.0	1792.0
18.5	1673.0
19.0	1560.0
19.5	1458.0
20.0	1358.0
20.5	1264.0
21.0	1177.0
21.5	1096.0
22.0	1019.0
22.5	946.6
23.0	879.4
23.5	816.9
24.0	758.6
24.5	704.3
25.0	653.8
25.5	607.0
26.0	563.8
26.5	523.7

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	486.7
<b>27.5</b>	452.7
<b>28.0</b>	421.4
<b>28.5</b>	392.6
<b>29.0</b>	366.1
<b>29.5</b>	341.8
<b>30.0</b>	319.3
<b>30.5</b>	298.7
<b>31.0</b>	279.8
<b>31.5</b>	262.3
<b>32.0</b>	246.2
<b>32.5</b>	231.3
<b>33.0</b>	217.6
<b>33.5</b>	204.9
<b>34.0</b>	193.2
<b>34.5</b>	182.3
<b>35.0</b>	172.2
<b>35.5</b>	162.9
<b>36.0</b>	154.3
<b>36.5</b>	146.2
<b>37.0</b>	138.8
<b>37.5</b>	131.8
<b>38.0</b>	125.4
<b>38.5</b>	119.5
<b>39.0</b>	114.0
<b>39.5</b>	108.8
<b>40.0</b>	104.1
<b>40.5</b>	99.6
<b>41.0</b>	95.5
<b>41.5</b>	91.6
<b>42.0</b>	88.0
<b>42.5</b>	84.6
<b>43.0</b>	81.4
<b>43.5</b>	78.4
<b>44.0</b>	75.5
<b>44.5</b>	72.8
<b>45.0</b>	70.3
<b>45.5</b>	67.9
<b>46.0</b>	65.6
<b>46.5</b>	63.4
<b>47.0</b>	61.3
<b>47.5</b>	59.2
<b>48.0</b>	57.3
<b>48.5</b>	55.4
<b>49.0</b>	53.7
<b>49.5</b>	52.0
<b>50.0</b>	50.4
<b>50.5</b>	48.8
<b>51.0</b>	47.3
<b>51.5</b>	45.9
<b>52.0</b>	44.5
<b>52.5</b>	43.2
<b>53.0</b>	41.9
<b>53.5</b>	40.7
<b>54.0</b>	39.5
<b>54.5</b>	38.4

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**CANDELA TABULATION - (Cont.)**

<b>55.0</b>	<b>37.3</b>
<b>55.5</b>	<b>36.2</b>
<b>56.0</b>	<b>35.2</b>
<b>56.5</b>	<b>34.2</b>
<b>57.0</b>	<b>33.1</b>
<b>57.5</b>	<b>32.1</b>
<b>58.0</b>	<b>31.2</b>
<b>58.5</b>	<b>30.2</b>
<b>59.0</b>	<b>29.3</b>
<b>59.5</b>	<b>28.3</b>
<b>60.0</b>	<b>27.4</b>
<b>60.5</b>	<b>26.4</b>
<b>61.0</b>	<b>25.5</b>
<b>61.5</b>	<b>24.6</b>
<b>62.0</b>	<b>23.7</b>
<b>62.5</b>	<b>22.9</b>
<b>63.0</b>	<b>22.0</b>
<b>63.5</b>	<b>21.2</b>
<b>64.0</b>	<b>20.3</b>
<b>64.5</b>	<b>19.5</b>
<b>65.0</b>	<b>18.7</b>
<b>65.5</b>	<b>17.9</b>
<b>66.0</b>	<b>17.2</b>
<b>66.5</b>	<b>16.5</b>
<b>67.0</b>	<b>15.8</b>
<b>67.5</b>	<b>15.1</b>
<b>68.0</b>	<b>14.4</b>
<b>68.5</b>	<b>13.8</b>
<b>69.0</b>	<b>13.2</b>
<b>69.5</b>	<b>12.6</b>
<b>70.0</b>	<b>12.0</b>
<b>70.5</b>	<b>11.5</b>
<b>71.0</b>	<b>10.9</b>
<b>71.5</b>	<b>10.4</b>
<b>72.0</b>	<b>9.9</b>
<b>72.5</b>	<b>9.4</b>
<b>73.0</b>	<b>9.0</b>
<b>73.5</b>	<b>8.6</b>
<b>74.0</b>	<b>8.2</b>
<b>74.5</b>	<b>7.8</b>
<b>75.0</b>	<b>7.4</b>
<b>75.5</b>	<b>7.0</b>
<b>76.0</b>	<b>6.7</b>
<b>76.5</b>	<b>6.4</b>
<b>77.0</b>	<b>6.1</b>
<b>77.5</b>	<b>5.8</b>
<b>78.0</b>	<b>5.5</b>
<b>78.5</b>	<b>5.3</b>
<b>79.0</b>	<b>5.0</b>
<b>79.5</b>	<b>4.7</b>
<b>80.0</b>	<b>4.5</b>
<b>80.5</b>	<b>4.2</b>
<b>81.0</b>	<b>3.9</b>
<b>81.5</b>	<b>3.7</b>
<b>82.0</b>	<b>3.4</b>
<b>82.5</b>	<b>3.2</b>

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CANDELA TABULATION - (Cont.)

83.0	3.0
83.5	2.7
84.0	2.5
84.5	2.2
85.0	2.0
85.5	1.8
86.0	1.6
86.5	1.4
87.0	1.2
87.5	1.0
88.0	0.8
88.5	0.6
89.0	0.5
89.5	0.4
90.0	0.3
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	1263.49	N.A.	69.70
0-30	1580.06	N.A.	87.20
0-40	1693.64	N.A.	93.50
0-60	1782.95	N.A.	98.40
0-80	1809.86	N.A.	99.90
0-90	1812.17	N.A.	100.00
10-90	1281.57	N.A.	70.70
20-40	430.15	N.A.	23.70
20-50	485.74	N.A.	26.80
40-70	108.11	N.A.	6.00
60-80	26.91	N.A.	1.50
70-80	8.11	N.A.	0.40
80-90	2.31	N.A.	0.10
90-110	0.01	N.A.	0.00
90-120	0.01	N.A.	0.00
90-130	0.01	N.A.	0.00
90-150	0.01	N.A.	0.00
90-180	0.01	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1812.18	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	530.60
10-20	732.89
20-30	316.58
30-40	113.58
40-50	55.59
50-60	33.72
60-70	18.81
70-80	8.11
80-90	2.31
90-100	0.01
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	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	102	100	108	104	101	98	101	98	96	98	96	94	95	94	92	91
3	106	100	96	93	104	99	95	92	97	93	91	94	92	89	92	90	88	87
4	102	96	91	88	100	95	90	87	93	89	86	91	88	85	89	86	84	83
5	98	91	87	83	97	91	86	83	89	85	82	87	84	82	86	83	81	80
6	95	88	83	80	94	87	83	79	86	82	79	84	81	78	83	80	78	77
7	92	84	80	76	91	84	79	76	83	79	76	81	78	75	80	77	75	74
8	89	81	77	73	88	81	76	73	80	76	73	79	75	73	78	75	72	71
9	86	78	74	71	85	78	74	71	77	73	70	76	73	70	76	72	70	69
10	83	76	71	68	83	76	71	68	75	71	68	74	70	68	73	70	68	67

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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

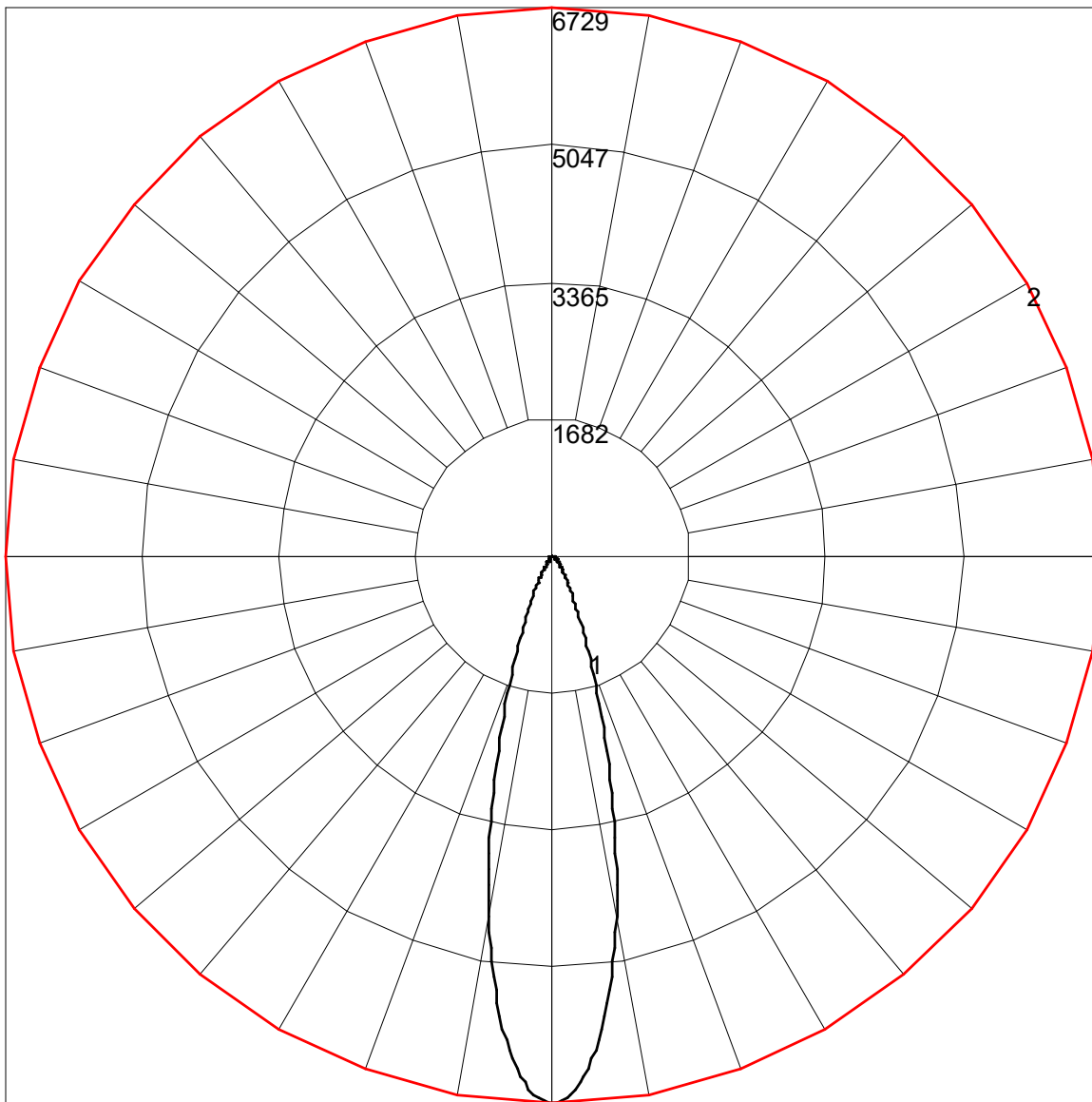
X=2H	Y=2H	8.9	9.8	9.2	10.1	10.5	8.9	9.8	9.2	10.1	10.5
	3H	9.7	10.6	10.1	10.9	11.3	9.7	10.6	10.1	10.9	11.3
	4H	10.0	10.8	10.4	11.1	11.5	10.0	10.8	10.4	11.1	11.5
	6H	10.1	10.9	10.6	11.2	11.6	10.1	10.9	10.6	11.2	11.6
	8H	10.2	10.9	10.6	11.3	11.7	10.2	10.9	10.6	11.3	11.7
	12H	10.2	10.8	10.6	11.2	11.7	10.2	10.8	10.6	11.2	11.7

UGR Viewed Endwise

4H	2H	9.1	9.9	9.5	10.2	10.6	9.1	9.9	9.5	10.2	10.6
	3H	10.1	10.8	10.5	11.2	11.6	10.1	10.8	10.5	11.2	11.6
	4H	10.4	11.0	10.9	11.4	11.9	10.4	11.0	10.9	11.4	11.9
	6H	10.7	11.2	11.2	11.6	12.1	10.7	11.2	11.2	11.6	12.1
	8H	10.8	11.2	11.2	11.7	12.2	10.8	11.2	11.2	11.7	12.2
	12H	10.8	11.2	11.3	11.7	12.2	10.8	11.2	11.3	11.7	12.2
8H	4H	10.5	10.9	11.0	11.4	11.9	10.5	10.9	11.0	11.4	11.9
	6H	10.8	11.2	11.3	11.7	12.2	10.8	11.2	11.3	11.7	12.2
	8H	11.0	11.3	11.5	11.8	12.3	11.0	11.3	11.5	11.8	12.3
	12H	11.1	11.4	11.6	11.9	12.4	11.1	11.4	11.6	11.9	12.4
12H	4H	10.5	10.8	10.9	11.3	11.8	10.5	10.8	10.9	11.3	11.8
	6H	10.8	11.2	11.4	11.6	12.2	10.8	11.2	11.4	11.6	12.2
	8H	11.0	11.3	11.5	11.8	12.4	11.0	11.3	11.5	11.8	12.4

Maximum UGR = 12.4

POLAR GRAPH



Maximum Candela = 6729 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)