



## IES INDOOR REPORT

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

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from 12326812.14

[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-RM-OF-WH

[LUMINAIRE] Black formed aluminum housing, white reflector, frosted pl

[MORE] astic 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	1782
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	87
Total Luminaire Watts	20.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.58
Spacing Criterion (90-270)	0.58
Spacing Criterion (Diagonal)	0.56
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	6406	6406	6406
55	4307	4307	4307
65	3205	3205	3205
75	2213	2213	2213
85	1849	1849	1849

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CANDELA TABULATION

	<u>0</u>
0.0	4313.0
0.5	4311.0
1.0	4305.0
1.5	4295.0
2.0	4281.0
2.5	4264.0
3.0	4243.0
3.5	4219.0
4.0	4193.0
4.5	4163.0
5.0	4131.0
5.5	4096.0
6.0	4057.0
6.5	4014.0
7.0	3968.0
7.5	3918.0
8.0	3864.0
8.5	3806.0
9.0	3744.0
9.5	3677.0
10.0	3607.0
10.5	3532.0
11.0	3452.0
11.5	3368.0
12.0	3280.0
12.5	3186.0
13.0	3090.0
13.5	2989.0
14.0	2885.0
14.5	2779.0
15.0	2669.0
15.5	2559.0
16.0	2447.0
16.5	2335.0
17.0	2225.0
17.5	2120.0
18.0	2012.0
18.5	1905.0
19.0	1800.0
19.5	1700.0
20.0	1605.0
20.5	1513.0
21.0	1423.0
21.5	1337.0
22.0	1254.0
22.5	1176.0
23.0	1102.0
23.5	1032.0
24.0	966.2
24.5	904.5
25.0	846.4
25.5	791.9
26.0	741.0
26.5	693.2

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	648.7
<b>27.5</b>	607.1
<b>28.0</b>	568.1
<b>28.5</b>	531.9
<b>29.0</b>	497.9
<b>29.5</b>	466.1
<b>30.0</b>	436.2
<b>30.5</b>	408.3
<b>31.0</b>	382.2
<b>31.5</b>	357.7
<b>32.0</b>	334.8
<b>32.5</b>	313.3
<b>33.0</b>	293.1
<b>33.5</b>	274.2
<b>34.0</b>	256.4
<b>34.5</b>	239.9
<b>35.0</b>	224.5
<b>35.5</b>	210.1
<b>36.0</b>	196.7
<b>36.5</b>	184.3
<b>37.0</b>	172.8
<b>37.5</b>	162.2
<b>38.0</b>	152.4
<b>38.5</b>	143.4
<b>39.0</b>	135.1
<b>39.5</b>	127.5
<b>40.0</b>	120.6
<b>40.5</b>	114.3
<b>41.0</b>	108.5
<b>41.5</b>	103.2
<b>42.0</b>	98.3
<b>42.5</b>	93.8
<b>43.0</b>	89.6
<b>43.5</b>	85.8
<b>44.0</b>	82.2
<b>44.5</b>	79.0
<b>45.0</b>	75.9
<b>45.5</b>	73.1
<b>46.0</b>	70.4
<b>46.5</b>	67.9
<b>47.0</b>	65.6
<b>47.5</b>	63.5
<b>48.0</b>	61.5
<b>48.5</b>	59.6
<b>49.0</b>	57.8
<b>49.5</b>	56.0
<b>50.0</b>	54.4
<b>50.5</b>	52.9
<b>51.0</b>	51.4
<b>51.5</b>	50.0
<b>52.0</b>	48.7
<b>52.5</b>	47.3
<b>53.0</b>	46.1
<b>53.5</b>	44.9
<b>54.0</b>	43.7
<b>54.5</b>	42.5

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**CANDELA TABULATION - (Cont.)**

<b>55.0</b>	41.4
<b>55.5</b>	40.3
<b>56.0</b>	39.3
<b>56.5</b>	38.2
<b>57.0</b>	37.2
<b>57.5</b>	36.2
<b>58.0</b>	35.2
<b>58.5</b>	34.2
<b>59.0</b>	33.3
<b>59.5</b>	32.3
<b>60.0</b>	31.4
<b>60.5</b>	30.5
<b>61.0</b>	29.6
<b>61.5</b>	28.7
<b>62.0</b>	27.8
<b>62.5</b>	26.9
<b>63.0</b>	26.1
<b>63.5</b>	25.2
<b>64.0</b>	24.4
<b>64.5</b>	23.5
<b>65.0</b>	22.7
<b>65.5</b>	21.9
<b>66.0</b>	21.1
<b>66.5</b>	20.3
<b>67.0</b>	19.5
<b>67.5</b>	18.8
<b>68.0</b>	18.0
<b>68.5</b>	17.3
<b>69.0</b>	16.6
<b>69.5</b>	15.8
<b>70.0</b>	15.2
<b>70.5</b>	14.5
<b>71.0</b>	13.9
<b>71.5</b>	13.2
<b>72.0</b>	12.6
<b>72.5</b>	12.0
<b>73.0</b>	11.5
<b>73.5</b>	11.0
<b>74.0</b>	10.5
<b>74.5</b>	10.0
<b>75.0</b>	9.6
<b>75.5</b>	9.1
<b>76.0</b>	8.7
<b>76.5</b>	8.4
<b>77.0</b>	8.0
<b>77.5</b>	7.6
<b>78.0</b>	7.3
<b>78.5</b>	6.9
<b>79.0</b>	6.6
<b>79.5</b>	6.3
<b>80.0</b>	5.9
<b>80.5</b>	5.6
<b>81.0</b>	5.2
<b>81.5</b>	4.9
<b>82.0</b>	4.6
<b>82.5</b>	4.3

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CANDELA TABULATION - (Cont.)

83.0	4.0
83.5	3.6
84.0	3.3
84.5	3.0
85.0	2.7
85.5	2.4
86.0	2.2
86.5	1.9
87.0	1.6
87.5	1.3
88.0	1.0
88.5	0.8
89.0	0.7
89.5	0.5
90.0	0.4
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	1096.46	N.A.	61.50
0-30	1499.17	N.A.	84.10
0-40	1647.4	N.A.	92.40
0-60	1745.78	N.A.	98.00
0-80	1778.85	N.A.	99.80
0-90	1781.93	N.A.	100.00
10-90	1403.98	N.A.	78.80
20-40	550.94	N.A.	30.90
20-50	611.94	N.A.	34.30
40-70	121.00	N.A.	6.80
60-80	33.07	N.A.	1.90
70-80	10.45	N.A.	0.60
80-90	3.09	N.A.	0.20
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	1781.94	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	377.95
10-20	718.50
20-30	402.72
30-40	148.23
40-50	60.99
50-60	37.38
60-70	22.62
70-80	10.45
80-90	3.09
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	111	109	107	112	109	107	105	105	104	102	102	100	99	98	97	96	94
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89
3	104	99	94	91	103	97	93	90	95	91	89	92	90	87	90	88	86	84
4	100	94	89	85	98	92	88	84	90	86	83	88	85	83	87	84	82	80
5	96	89	84	80	95	88	83	80	86	82	79	85	81	78	83	80	78	76
6	92	85	80	76	91	84	79	76	83	78	75	81	77	75	80	77	74	73
7	89	81	76	72	88	80	75	72	79	75	72	78	74	71	77	73	71	70
8	86	77	72	69	85	77	72	69	76	72	68	75	71	68	74	71	68	67
9	83	74	69	66	82	74	69	66	73	69	66	72	68	65	71	68	65	64
10	80	71	67	63	79	71	66	63	70	66	63	70	66	63	69	65	63	62

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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	9.7	10.7	10.1	11.0	11.3	UGR Viewed Endwise	9.7	10.7	10.1	11.0	11.3
	3H	10.8	11.7	11.2	12.0	12.4		10.8	11.7	11.2	12.0	12.4
	4H	11.1	11.9	11.5	12.3	12.7		11.1	11.9	11.5	12.3	12.7
	6H	11.3	12.1	11.8	12.5	12.9		11.3	12.1	11.8	12.5	12.9
	8H	11.4	12.1	11.9	12.5	12.9		11.4	12.1	11.9	12.5	12.9
	12H	11.5	12.1	11.9	12.5	12.9		11.5	12.1	11.9	12.5	12.9

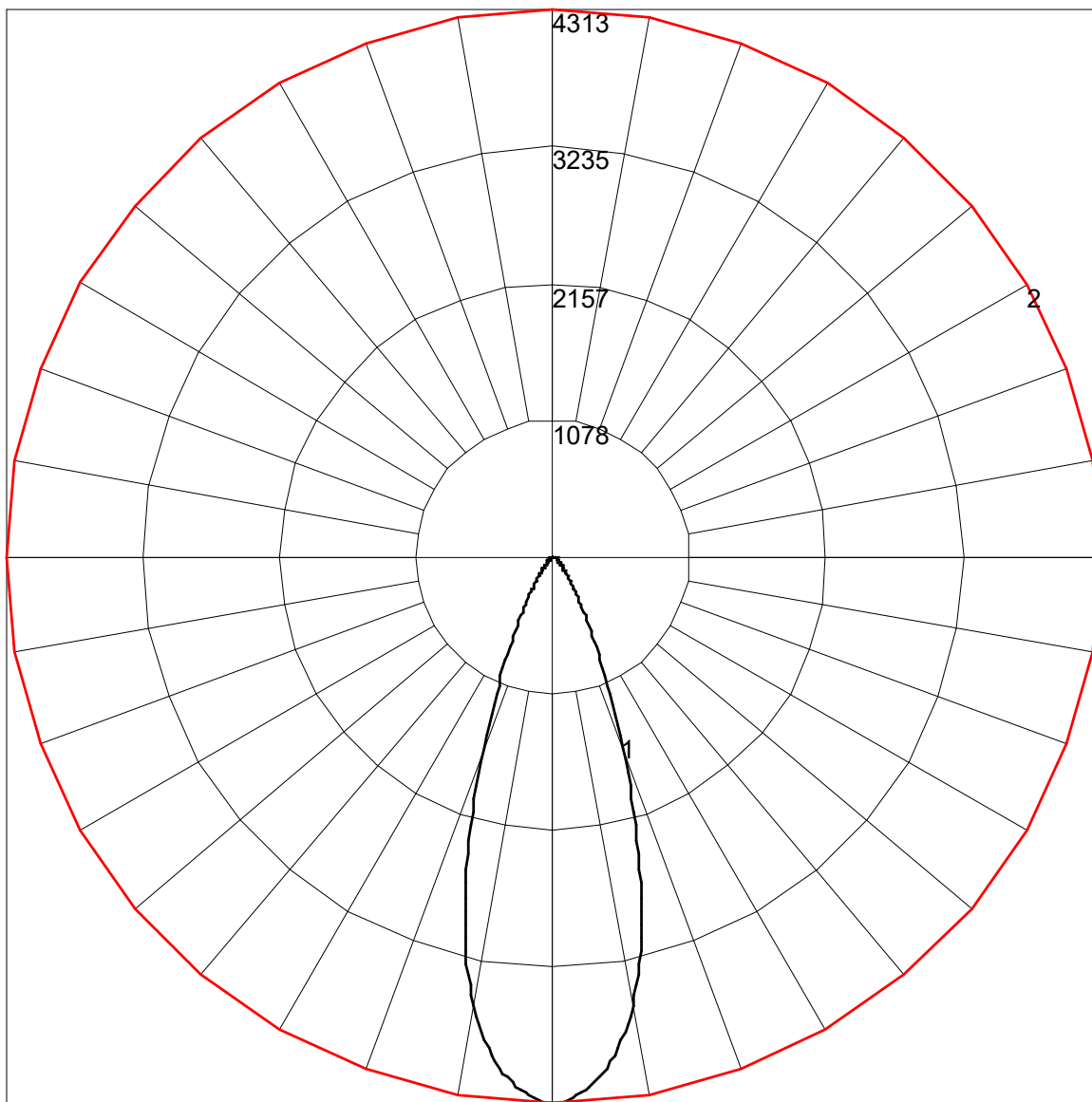
4H	2H	10.0	10.8	10.4	11.2	11.6	10.0	10.8	10.4	11.2	11.6
	3H	11.3	11.9	11.7	12.4	12.8	11.3	11.9	11.7	12.4	12.8
	4H	11.7	12.3	12.1	12.7	13.1	11.7	12.3	12.1	12.7	13.1
	6H	12.0	12.5	12.5	13.0	13.5	12.0	12.5	12.5	13.0	13.5
	8H	12.2	12.6	12.6	13.1	13.5	12.2	12.6	12.6	13.1	13.5
	12H	12.2	12.6	12.7	13.1	13.6	12.2	12.6	12.7	13.1	13.6

8H	4H	11.8	12.2	12.3	12.7	13.2	11.8	12.2	12.3	12.7	13.2
	6H	12.2	12.6	12.8	13.1	13.6	12.2	12.6	12.8	13.1	13.6
	8H	12.4	12.7	13.0	13.3	13.8	12.4	12.7	13.0	13.3	13.8
	12H	12.6	12.8	13.1	13.3	13.9	12.6	12.8	13.1	13.3	13.9

12H	4H	11.8	12.2	12.3	12.6	13.1	11.8	12.2	12.3	12.6	13.1
	6H	12.2	12.6	12.8	13.0	13.6	12.2	12.6	12.8	13.0	13.6
	8H	12.5	12.7	13.0	13.2	13.8	12.5	12.7	13.0	13.2	13.8

Maximum UGR = 13.9

POLAR GRAPH



Maximum Candela = 4313 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.)