

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : HM6DR-TL-L20-835-DIM-UNV-LW-OF-WH\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 12326812.07

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 6-16-2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMCAT] HM6DR-TL-L20-835-DIM-UNV-LW-OF-WH

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

[MORE] s 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	2079
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	90
Total Luminaire Watts	23.1
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.08
Spacing Criterion (90-270)	1.08
Spacing Criterion (Diagonal)	0.98
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.46 ft (Diameter)
Luminous Width (90-270)	0.46 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	34566	34566	34566
55	28778	28778	28778
65	21863	21863	21863
75	15855	15855	15855
85	10332	10332	10332

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CANDELA TABULATION

	<u>0</u>
0.0	1322.704
0.5	1322.438
1.0	1321.373
1.5	1319.775
2.0	1317.777
2.5	1315.114
3.0	1312.451
3.5	1309.388
4.0	1306.591
4.5	1303.795
5.0	1301.798
5.5	1299.933
6.0	1298.202
6.5	1296.471
7.0	1294.607
7.5	1292.876
8.0	1291.145
8.5	1289.547
9.0	1287.949
9.5	1286.617
10.0	1285.285
10.5	1284.220
11.0	1283.288
11.5	1282.755
12.0	1281.823
12.5	1280.891
13.0	1279.559
13.5	1277.828
14.0	1275.698
14.5	1273.301
15.0	1270.771
15.5	1267.575
16.0	1264.113
16.5	1260.650
17.0	1257.188
17.5	1253.593
18.0	1249.731
18.5	1245.337
19.0	1240.410
19.5	1234.950
20.0	1228.691
20.5	1221.900
21.0	1213.511
21.5	1203.524
22.0	1192.205
22.5	1179.421
23.0	1165.439
23.5	1150.259
24.0	1133.480
24.5	1115.370
25.0	1095.795
25.5	1075.421
26.0	1053.716
26.5	1031.078

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CANDELA TABULATION - (Cont.)

27.0	1006.976
27.5	982.207
28.0	956.108
28.5	928.543
29.0	899.913
29.5	869.818
30.0	838.924
30.5	807.099
31.0	775.273
31.5	743.181
32.0	712.020
32.5	682.192
33.0	653.562
33.5	626.796
34.0	602.161
34.5	579.790
35.0	559.816
35.5	541.439
36.0	525.326
36.5	510.545
37.0	497.362
37.5	485.511
38.0	474.725
38.5	464.871
39.0	455.549
39.5	447.160
40.0	439.037
40.5	431.447
41.0	424.389
41.5	417.465
42.0	410.807
42.5	404.681
43.0	398.423
43.5	392.297
44.0	386.305
44.5	380.446
45.0	374.453
45.5	368.727
46.0	362.868
46.5	357.009
47.0	351.017
47.5	345.157
48.0	339.165
48.5	333.173
49.0	327.181
49.5	320.922
50.0	314.930
50.5	308.804
51.0	302.679
51.5	296.420
52.0	290.161
52.5	283.903
53.0	277.644
53.5	271.385
54.0	265.393
54.5	259.268

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**CANDELA TABULATION - (Cont.)**

55.0	252.876
55.5	246.617
56.0	240.359
56.5	234.499
57.0	228.640
57.5	222.515
58.0	216.389
58.5	210.397
59.0	204.538
59.5	198.679
60.0	193.086
60.5	187.493
61.0	182.033
61.5	176.574
62.0	171.380
62.5	166.187
63.0	161.127
63.5	156.067
64.0	151.140
64.5	146.346
65.0	141.552
65.5	136.891
66.0	132.244
66.5	127.676
67.0	123.162
67.5	118.741
68.0	114.400
68.5	110.046
69.0	105.824
69.5	101.643
70.0	97.582
70.5	93.653
71.0	89.805
71.5	86.076
72.0	82.481
72.5	78.992
73.0	75.596
73.5	72.267
74.0	69.071
74.5	65.942
75.0	62.866
75.5	59.897
76.0	56.980
76.5	54.117
77.0	51.334
77.5	48.604
78.0	45.954
78.5	43.358
79.0	40.814
79.5	38.364
80.0	35.927
80.5	33.570
81.0	31.240
81.5	28.923
82.0	26.659
82.5	24.409

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CANDELA TABULATION - (Cont.)

83.0	22.212
83.5	20.054
84.0	17.924
84.5	15.833
85.0	13.796
85.5	11.825
86.0	9.921
86.5	8.083
87.0	6.299
87.5	4.807
88.0	3.675
88.5	2.690
89.0	1.864
89.5	1.172
90.0	0.746
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

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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
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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
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146.0	0.000
146.5	0.000
147.0	0.000
147.5	0.000
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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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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



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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	481.82	N.A.	23.20
0-30	973.95	N.A.	46.80
0-40	1338.87	N.A.	64.40
0-60	1854.13	N.A.	89.20
0-80	2062.84	N.A.	99.20
0-90	2079.33	N.A.	100.00
10-90	1955.55	N.A.	94.00
20-40	857.05	N.A.	41.20
20-50	1146.22	N.A.	55.10
40-70	656.36	N.A.	31.60
60-80	208.71	N.A.	10.00
70-80	67.61	N.A.	3.30
80-90	16.49	N.A.	0.80
90-110	0.02	N.A.	0.00
90-120	0.02	N.A.	0.00
90-130	0.02	N.A.	0.00
90-150	0.02	N.A.	0.00
90-180	0.02	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	2079.35	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	123.78
10-20	358.04
20-30	492.13
30-40	364.92
40-50	289.17
50-60	226.10
60-70	141.10
70-80	67.61
80-90	16.49
90-100	0.02
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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78
3	96	87	80	75	93	85	79	74	83	77	73	80	75	72	78	74	70	69
4	89	79	72	66	87	78	71	65	75	69	65	73	68	64	71	67	63	61
5	83	72	64	59	81	71	64	58	69	63	58	67	62	57	65	61	57	55
6	78	66	58	53	76	65	58	53	64	57	52	62	56	52	61	55	52	50
7	73	61	53	48	71	60	53	48	59	52	48	58	52	47	56	51	47	45
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42
9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38
10	61	49	42	37	60	49	42	37	48	42	37	47	41	37	46	41	37	35

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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	21.6	23.0	22.0	23.3	23.6	21.6	23.0	22.0	23.3	23.6
	3H	22.8	24.1	23.2	24.4	24.7	22.8	24.1	23.2	24.4	24.7
	4H	23.2	24.4	23.6	24.7	25.1	23.2	24.4	23.6	24.7	25.1
	6H	23.5	24.5	23.9	24.9	25.3	23.5	24.5	23.9	24.9	25.3
	8H	23.6	24.6	24.0	25.0	25.4	23.6	24.6	24.0	25.0	25.4
	12H	23.6	24.6	24.0	24.9	25.4	23.6	24.6	24.0	24.9	25.4

UGR Viewed Endwise

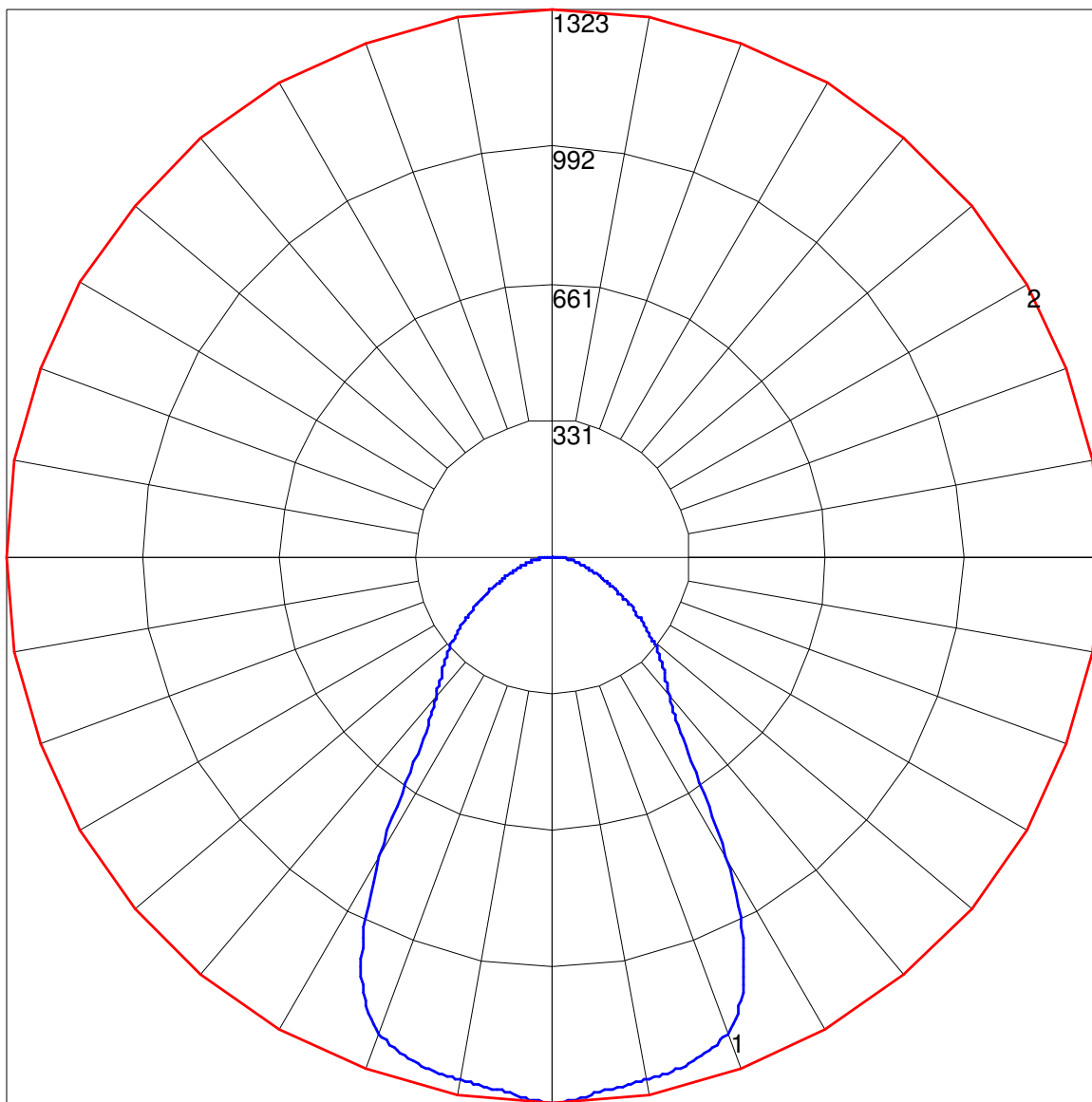
4H	2H	22.0	23.2	22.4	23.5	23.9	22.0	23.2	22.4	23.5	23.9
	3H	23.4	24.4	23.8	24.8	25.2	23.4	24.4	23.8	24.8	25.2
	4H	23.9	24.8	24.4	25.2	25.6	23.9	24.8	24.4	25.2	25.6
	6H	24.3	25.0	24.8	25.5	25.9	24.3	25.0	24.8	25.5	25.9
	8H	24.4	25.1	24.8	25.5	26.0	24.4	25.1	24.8	25.5	26.0
	12H	24.5	25.1	24.9	25.6	26.0	24.5	25.1	24.9	25.6	26.0

8H	4H	24.1	24.8	24.5	25.2	25.7	24.1	24.8	24.5	25.2	25.7
	6H	24.5	25.1	25.0	25.6	26.1	24.5	25.1	25.0	25.6	26.1
	8H	24.7	25.2	25.2	25.7	26.2	24.7	25.2	25.2	25.7	26.2
	12H	24.8	25.3	25.3	25.8	26.3	24.8	25.3	25.3	25.8	26.3

12H	4H	24.1	24.7	24.6	25.2	25.6	24.1	24.7	24.6	25.2	25.6
	6H	24.6	25.1	25.1	25.5	26.1	24.6	25.1	25.1	25.5	26.1
	8H	24.8	25.2	25.3	25.7	26.3	24.8	25.2	25.3	25.7	26.3

Maximum UGR = 26.3

POLAR GRAPH



Maximum Candela = 1322.704 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.)