



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L40-835-DIM-UNV-SW-OF-WH_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12316380.11
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 11/17/2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4DR-TL-L40-835-DIM-UNV-SW-OF-WH
 [LUMINAIRE] Black formed aluminum housing, white reflector, frosted pl
 [MORE] astic lens enclosure
 [LAMP] One white LED
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Classroom, Commercial, Corridor, Hotel, Industrial, Office, Downlight
 [_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2289
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	60
Total Luminaire Watts	38
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.35 ft (Diameter)
Luminous Width (90-270)	0.35 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	82662	82662	82662
55	70555	70555	70555
65	60181	60181	60181
75	49765	49765	49765
85	30797	30797	30797

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CANDELA TABULATION

	<u>0</u>
0.0	963.758
0.5	963.586
1.0	963.071
1.5	962.556
2.0	961.525
2.5	960.494
3.0	959.120
3.5	957.745
4.0	956.371
4.5	954.997
5.0	953.794
5.5	952.420
6.0	951.045
6.5	949.671
7.0	948.125
7.5	946.407
8.0	944.689
8.5	942.971
9.0	941.082
9.5	939.192
10.0	937.130
10.5	935.069
11.0	932.835
11.5	930.430
12.0	928.025
12.5	925.448
13.0	922.700
13.5	919.779
14.0	916.687
14.5	913.423
15.0	909.987
15.5	906.551
16.0	902.943
16.5	899.508
17.0	895.728
17.5	891.949
18.0	888.169
18.5	884.390
19.0	880.610
19.5	876.831
20.0	873.052
20.5	869.272
21.0	865.321
21.5	861.198
22.0	856.903
22.5	852.093
23.0	847.283
23.5	841.957
24.0	836.631
24.5	830.962
25.0	825.121
25.5	819.280
26.0	813.096
26.5	806.911

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CANDELA TABULATION - (Cont.)

27.0	800.555
27.5	794.027
28.0	787.499
28.5	781.142
29.0	774.786
29.5	768.258
30.0	761.902
30.5	755.202
31.0	748.330
31.5	741.630
32.0	734.758
32.5	727.887
33.0	720.843
33.5	713.628
34.0	706.584
34.5	699.369
35.0	692.154
35.5	684.767
36.0	677.379
36.5	669.821
37.0	662.262
37.5	654.703
38.0	646.972
38.5	639.070
39.0	631.511
39.5	623.608
40.0	615.706
40.5	607.975
41.0	599.901
41.5	592.170
42.0	584.096
42.5	576.193
43.0	568.119
43.5	559.873
44.0	551.627
44.5	543.381
45.0	534.963
45.5	526.717
46.0	518.299
46.5	509.881
47.0	501.463
47.5	492.874
48.0	484.456
48.5	475.866
49.0	467.448
49.5	459.031
50.0	450.613
50.5	442.367
51.0	434.121
51.5	425.875
52.0	417.800
52.5	409.726
53.0	401.824
53.5	393.921
54.0	386.019
54.5	378.288

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CANDELA TABULATION - (Cont.)

55.0	370.385
55.5	362.655
56.0	355.611
56.5	348.052
57.0	340.837
57.5	333.622
58.0	326.407
58.5	319.191
59.0	312.319
59.5	305.448
60.0	298.576
60.5	292.048
61.0	285.348
61.5	278.476
62.0	271.776
62.5	265.076
63.0	258.548
63.5	252.020
64.0	245.492
64.5	239.136
65.0	232.779
65.5	226.423
66.0	220.067
66.5	213.882
67.0	207.869
67.5	201.857
68.0	195.844
68.5	190.003
69.0	184.162
69.5	178.321
70.0	172.480
70.5	166.811
71.0	161.176
71.5	155.576
72.0	150.044
72.5	144.598
73.0	139.169
73.5	133.792
74.0	128.467
74.5	123.141
75.0	117.884
75.5	112.696
76.0	107.508
76.5	102.371
77.0	97.303
77.5	92.253
78.0	87.271
78.5	82.375
79.0	77.513
79.5	72.703
80.0	68.013
80.5	63.392
81.0	58.822
81.5	54.287
82.0	49.837
82.5	45.456

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CANDELA TABULATION - (Cont.)

83.0	41.127
83.5	36.850
84.0	32.675
84.5	28.569
85.0	24.566
85.5	20.735
86.0	17.162
86.5	14.035
87.0	11.184
87.5	8.624
88.0	6.425
88.5	4.690
89.0	3.264
89.5	2.113
90.0	1.306
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
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134.0	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
145.5	0.000
146.0	0.000
146.5	0.000
147.0	0.000
147.5	0.000
148.0	0.000
148.5	0.000
149.0	0.000
149.5	0.000
150.0	0.000
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
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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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CANDELA TABULATION - (Cont.)

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	347.00	N.A.	15.20
0-30	726.07	N.A.	31.70
0-40	1158.22	N.A.	50.60
0-60	1902.52	N.A.	83.10
0-80	2258.76	N.A.	98.70
0-90	2289.12	N.A.	100.00
10-90	2198.59	N.A.	96.00
20-40	811.22	N.A.	35.40
20-50	1223.2	N.A.	53.40
40-70	975.45	N.A.	42.60
60-80	356.24	N.A.	15.60
70-80	125.08	N.A.	5.50
80-90	30.37	N.A.	1.30
90-110	0.04	N.A.	0.00
90-120	0.04	N.A.	0.00
90-130	0.04	N.A.	0.00
90-150	0.04	N.A.	0.00
90-180	0.04	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	2289.16	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	90.53
10-20	256.47
20-30	379.06
30-40	432.16
40-50	411.98
50-60	332.31
60-70	231.16
70-80	125.08
80-90	30.37
90-100	0.04
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	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	81	98	91	85	80	87	82	78	84	80	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	53
5	78	66	57	51	76	65	56	50	62	55	50	60	54	49	59	53	49	47
6	72	59	51	45	70	58	50	44	57	49	44	55	49	44	53	48	43	41
7	67	54	46	40	65	53	45	40	52	45	39	50	44	39	49	43	39	37
8	63	50	41	36	61	49	41	35	48	40	35	46	40	35	45	39	35	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30
10	55	42	34	29	54	42	34	29	41	34	29	40	33	29	39	33	29	27

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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

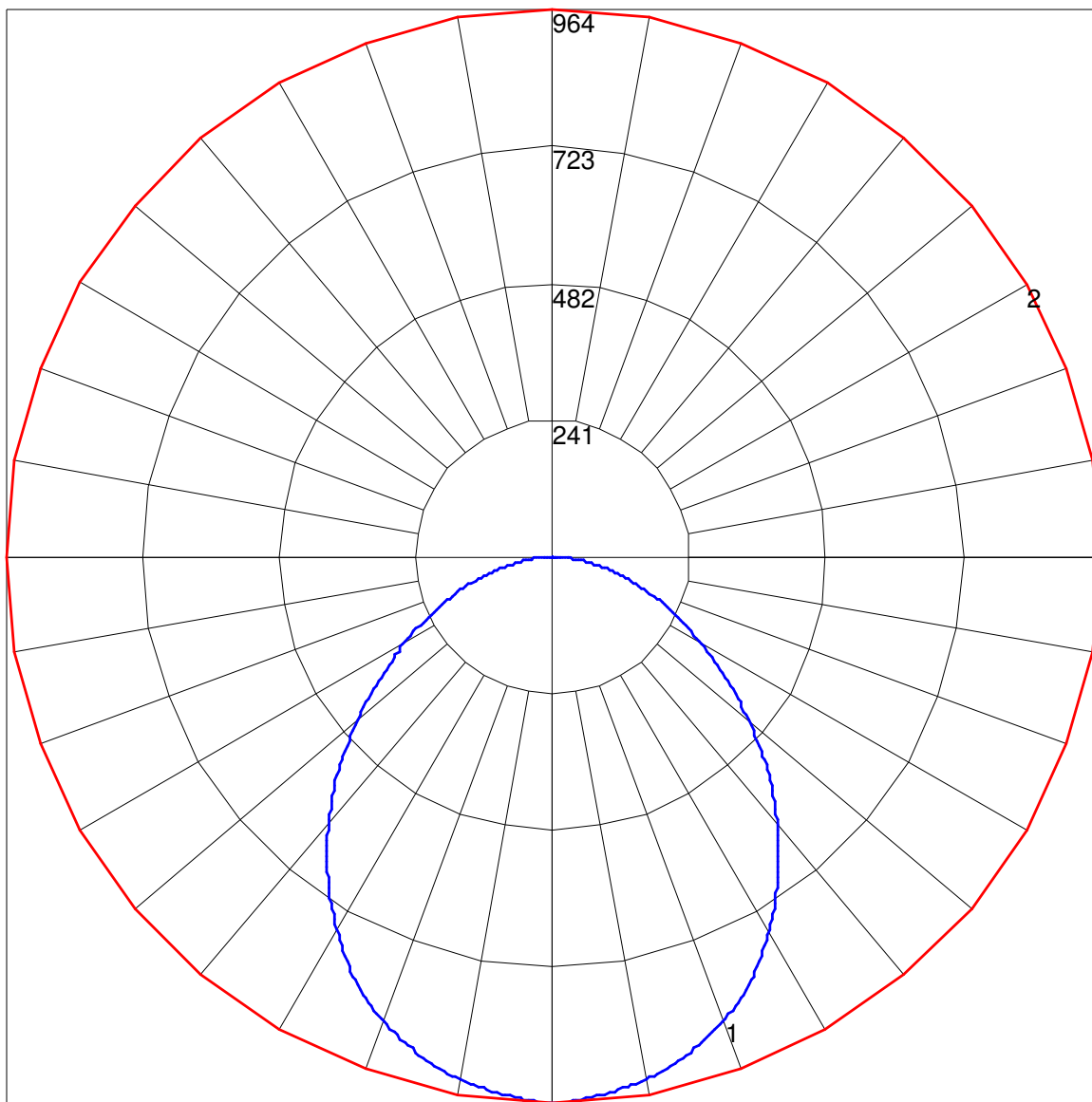
X=2H	Y=2H	25.6	27.2	26.0	27.5	27.8	25.6	27.2	26.0	27.5	27.8
	3H	27.2	28.6	27.6	29.0	29.3	27.2	28.6	27.6	29.0	29.3
	4H	27.8	29.1	28.2	29.5	29.8	27.8	29.1	28.2	29.5	29.8
	6H	28.2	29.4	28.6	29.8	30.2	28.2	29.4	28.6	29.8	30.2
	8H	28.3	29.5	28.7	29.9	30.3	28.3	29.5	28.7	29.9	30.3
	12H	28.4	29.5	28.8	29.9	30.3	28.4	29.5	28.8	29.9	30.3

UGR Viewed Endwise

4H	2H	26.2	27.5	26.6	27.9	28.2	26.2	27.5	26.6	27.9	28.2
	3H	28.0	29.1	28.4	29.5	29.9	28.0	29.1	28.4	29.5	29.9
	4H	28.7	29.7	29.1	30.1	30.5	28.7	29.7	29.1	30.1	30.5
	6H	29.2	30.1	29.6	30.5	31.0	29.2	30.1	29.6	30.5	31.0
	8H	29.3	30.2	29.8	30.6	31.1	29.3	30.2	29.8	30.6	31.1
	12H	29.4	30.2	29.9	30.6	31.1	29.4	30.2	29.9	30.6	31.1
8H	4H	28.9	29.7	29.4	30.2	30.7	28.9	29.7	29.4	30.2	30.7
	6H	29.5	30.2	30.0	30.7	31.2	29.5	30.2	30.0	30.7	31.2
	8H	29.8	30.4	30.3	30.9	31.4	29.8	30.4	30.3	30.9	31.4
	12H	29.9	30.4	30.4	30.9	31.5	29.9	30.4	30.4	30.9	31.5
12H	4H	29.0	29.7	29.4	30.2	30.6	29.0	29.7	29.4	30.2	30.6
	6H	29.6	30.2	30.1	30.7	31.2	29.6	30.2	30.1	30.7	31.2
	8H	29.8	30.4	30.4	30.9	31.4	29.8	30.4	30.4	30.9	31.4

Maximum UGR = 31.5

POLAR GRAPH



Maximum Candela = 963.758 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.)