



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L40-835-DIM-UNV-RW-OF-WH.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM 12316380.12
 [TESTLAB] UL Verification Services Inc.
 [ISSUE DATE] 02/17/2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4DR-TL-L40-835-DIM-UNV-RW-OF-WH
 [LUMINAIRE] Black formed aluminum housing, white reflector, clear glass
 [MORE] s patterned 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	2639
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	69
Total Luminaire Watts	38
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.98
Spacing Criterion (90-270)	0.98
Spacing Criterion (Diagonal)	0.88
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.38 ft (Diameter)
Luminous Width (90-270)	0.38 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	61035	61035	61035
55	49283	49283	49283
65	31881	31881	31881
75	17778	17778	17778
85	9133	9133	9133

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CANDELA TABULATION

	<u>0</u>
0.0	2119.572
0.5	2119.572
1.0	2117.578
1.5	2113.590
2.0	2109.602
2.5	2105.614
3.0	2099.632
3.5	2093.651
4.0	2087.669
4.5	2079.693
5.0	2073.711
5.5	2065.735
6.0	2057.759
6.5	2049.784
7.0	2041.808
7.5	2033.832
8.0	2025.856
8.5	2015.886
9.0	2007.911
9.5	1999.935
10.0	1992.358
10.5	1984.183
11.0	1975.808
11.5	1967.633
12.0	1959.856
12.5	1952.080
13.0	1944.304
13.5	1936.328
14.0	1928.352
14.5	1920.376
15.0	1912.201
15.5	1903.826
16.0	1895.053
16.5	1886.280
17.0	1877.307
17.5	1867.736
18.0	1857.567
18.5	1846.600
19.0	1836.032
19.5	1824.666
20.0	1812.304
20.5	1798.147
21.0	1781.796
21.5	1764.050
22.0	1743.712
22.5	1721.180
23.0	1695.658
23.5	1666.945
24.0	1635.440
24.5	1599.748
25.0	1559.869
25.5	1515.803
26.0	1468.148
26.5	1417.501

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CANDELA TABULATION - (Cont.)

27.0	1364.263
27.5	1310.227
28.0	1253.598
28.5	1197.568
29.0	1141.737
29.5	1085.907
30.0	1031.073
30.5	977.236
31.0	926.391
31.5	877.140
32.0	830.681
32.5	787.412
33.0	747.334
33.5	711.243
34.0	678.742
34.5	650.427
35.0	625.503
35.5	604.367
36.0	585.823
36.5	570.271
37.0	556.512
37.5	544.748
38.0	533.981
38.5	524.410
39.0	515.836
39.5	508.059
40.0	501.080
40.5	494.500
41.0	488.120
41.5	482.337
42.0	476.555
42.5	471.171
43.0	465.787
43.5	460.204
44.0	454.621
44.5	449.038
45.0	443.256
45.5	437.274
46.0	431.093
46.5	424.712
47.0	418.132
47.5	411.353
48.0	404.573
48.5	397.395
49.0	390.017
49.5	382.241
50.0	374.464
50.5	366.489
51.0	358.114
51.5	349.939
52.0	341.564
52.5	333.190
53.0	325.214
53.5	316.440
54.0	307.667
54.5	298.894

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CANDELA TABULATION - (Cont.)

55.0	290.320
55.5	281.546
56.0	272.972
56.5	264.598
57.0	256.223
57.5	247.848
58.0	239.673
58.5	231.697
59.0	223.722
59.5	215.945
60.0	208.169
60.5	200.592
61.0	193.214
61.5	185.836
62.0	178.858
62.5	171.679
63.0	164.900
63.5	157.921
64.0	151.341
64.5	144.761
65.0	138.380
65.5	132.000
66.0	125.818
66.5	119.837
67.0	114.054
67.5	108.272
68.0	102.689
68.5	97.106
69.0	91.722
69.5	86.538
70.0	81.752
70.5	77.166
71.0	72.979
71.5	68.991
72.0	65.202
72.5	61.613
73.0	58.223
73.5	55.232
74.0	52.242
74.5	49.649
75.0	47.257
75.5	45.063
76.0	42.671
76.5	40.477
77.0	38.284
77.5	36.091
78.0	34.097
78.5	31.903
79.0	29.909
79.5	27.915
80.0	25.921
80.5	23.927
81.0	22.133
81.5	20.338
82.0	18.344
82.5	16.749

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CANDELA TABULATION - (Cont.)

83.0	14.955
83.5	13.160
84.0	11.565
84.5	9.770
85.0	8.175
85.5	6.779
86.0	5.384
86.5	4.387
87.0	3.390
87.5	2.592
88.0	1.795
88.5	1.196
89.0	0.598
89.5	0.199
90.0	0.000
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
119.5	0.000
120.0	0.000
120.5	0.000
121.0	0.000
121.5	0.000
122.0	0.000
122.5	0.000
123.0	0.000
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124.0	0.000
124.5	0.000
125.0	0.000
125.5	0.000
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126.5	0.000
127.0	0.000
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128.0	0.000
128.5	0.000
129.0	0.000
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133.5	0.000
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134.5	0.000
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
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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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	733.66	N.A.	27.80
0-30	1419.72	N.A.	53.80
0-40	1837.8	N.A.	69.60
0-60	2437.2	N.A.	92.40
0-80	2627.91	N.A.	99.60
0-90	2638.69	N.A.	100.00
10-90	2443.48	N.A.	92.60
20-40	1104.14	N.A.	41.80
20-50	1444.3	N.A.	54.70
40-70	738.03	N.A.	28.00
60-80	190.71	N.A.	7.20
70-80	52.08	N.A.	2.00
80-90	10.78	N.A.	0.40
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	2638.69	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	195.22
10-20	538.44
20-30	686.06
30-40	418.08
40-50	340.16
50-60	259.24
60-70	138.63
70-80	52.08
80-90	10.78
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	112	108	105	102	109	106	103	101	102	100	97	98	96	95	95	93	92	90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72
4	91	82	75	70	89	80	74	69	78	73	68	76	71	67	74	70	67	65
5	85	75	68	63	84	74	67	62	72	66	62	70	65	61	69	64	61	59
6	80	69	62	57	78	68	62	57	67	61	56	65	60	56	64	59	55	54
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49
8	71	60	53	48	70	59	53	48	58	52	48	57	51	47	56	51	47	46
9	67	56	49	44	66	56	49	44	54	48	44	54	48	44	53	48	44	42
10	64	53	46	41	63	52	46	41	51	45	41	50	45	41	50	45	41	39

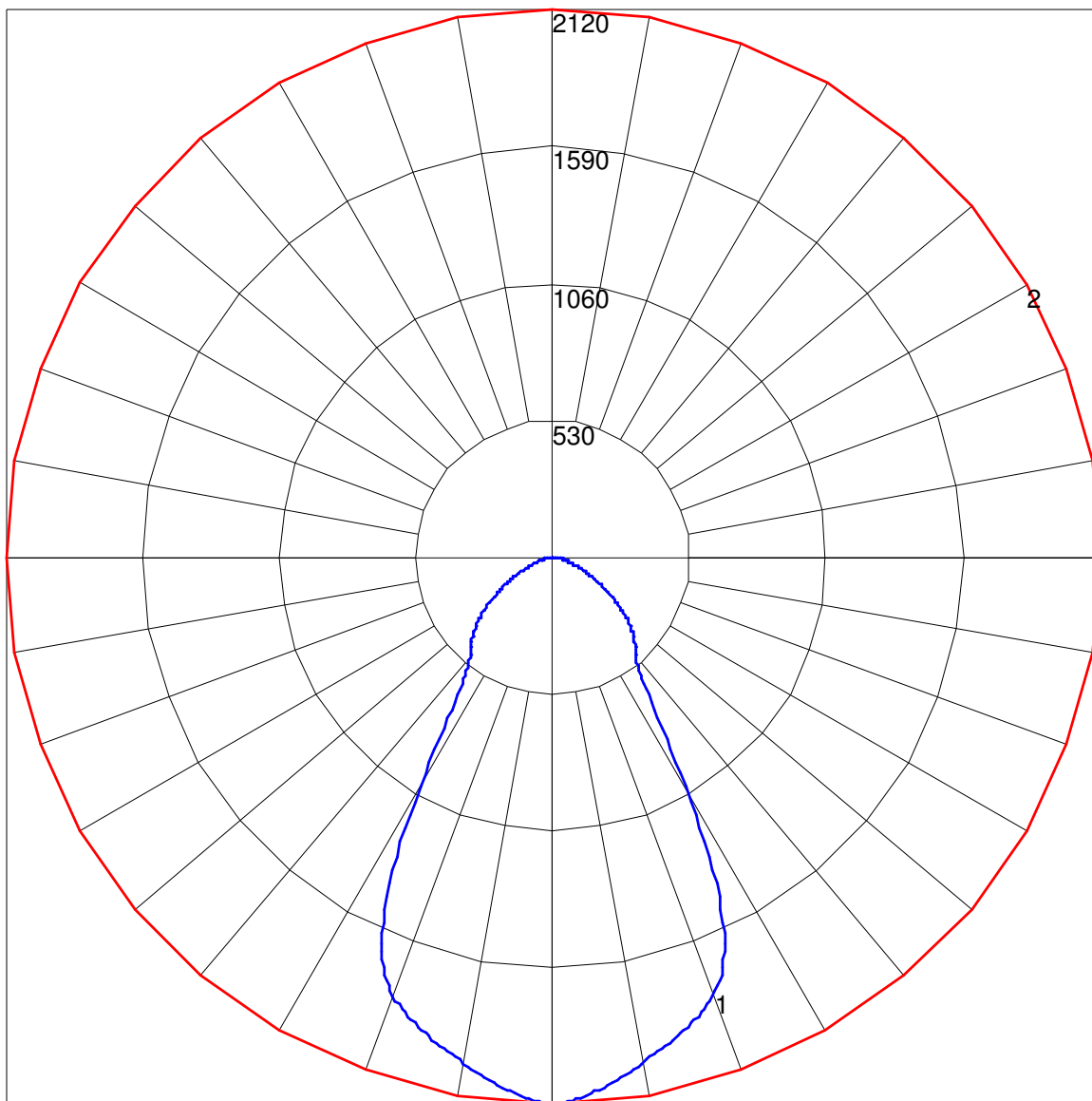
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UGR TABLE - CORRECTED

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	23.0	24.3	23.4	24.6	24.9	23.0	24.3	23.4	24.6	24.9
	3H	23.8	24.9	24.1	25.3	25.6	23.8	24.9	24.1	25.3	25.6
	4H	24.0	25.0	24.4	25.4	25.8	24.0	25.0	24.4	25.4	25.8
	6H	24.1	25.0	24.5	25.4	25.8	24.1	25.0	24.5	25.4	25.8
	8H	24.1	25.0	24.5	25.4	25.8	24.1	25.0	24.5	25.4	25.8
	12H	24.0	24.9	24.5	25.3	25.8	24.0	24.9	24.5	25.3	25.8
4H	2H	23.3	24.4	23.7	24.7	25.1	23.3	24.4	23.7	24.7	25.1
	3H	24.2	25.1	24.6	25.5	25.9	24.2	25.1	24.6	25.5	25.9
	4H	24.4	25.2	24.8	25.6	26.1	24.4	25.2	24.8	25.6	26.1
	6H	24.6	25.3	25.1	25.7	26.2	24.6	25.3	25.1	25.7	26.2
	8H	24.6	25.3	25.1	25.7	26.2	24.6	25.3	25.1	25.7	26.2
	12H	24.6	25.2	25.1	25.7	26.1	24.6	25.2	25.1	25.7	26.1
8H	4H	24.5	25.1	24.9	25.5	26.0	24.5	25.1	24.9	25.5	26.0
	6H	24.7	25.2	25.2	25.7	26.2	24.7	25.2	25.2	25.7	26.2
	8H	24.7	25.2	25.3	25.7	26.2	24.7	25.2	25.3	25.7	26.2
	12H	24.8	25.2	25.3	25.7	26.2	24.8	25.2	25.3	25.7	26.2
12H	4H	24.4	25.0	24.9	25.5	25.9	24.4	25.0	24.9	25.5	25.9
	6H	24.7	25.1	25.2	25.6	26.1	24.7	25.1	25.2	25.6	26.1
	8H	24.8	25.2	25.3	25.6	26.2	24.8	25.2	25.3	25.6	26.2

Maximum UGR = 26.2

POLAR GRAPH



Maximum Candela = 2119.572 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.)