



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L30-835-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] 10/02/2019
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4DR-TL-L30-835-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	1980
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	71
Total Luminaire Watts	27.8
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	45788	45788	45788
55	36972	36972	36972
65	23917	23917	23917
75	13337	13337	13337
85	6852	6852	6852

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CANDELA TABULATION

	<u>0</u>
0.0	1590.081
0.5	1590.081
1.0	1588.585
1.5	1585.594
2.0	1582.602
2.5	1579.610
3.0	1575.123
3.5	1570.635
4.0	1566.148
4.5	1560.164
5.0	1555.677
5.5	1549.693
6.0	1543.710
6.5	1537.727
7.0	1531.743
7.5	1525.760
8.0	1519.777
8.5	1512.297
9.0	1506.314
9.5	1500.331
10.0	1494.646
10.5	1488.513
11.0	1482.231
11.5	1476.098
12.0	1470.264
12.5	1464.430
13.0	1458.597
13.5	1452.613
14.0	1446.630
14.5	1440.646
15.0	1434.513
15.5	1428.231
16.0	1421.649
16.5	1415.068
17.0	1408.336
17.5	1401.156
18.0	1393.527
18.5	1385.300
19.0	1377.372
19.5	1368.846
20.0	1359.572
20.5	1348.951
21.0	1336.685
21.5	1323.372
22.0	1308.115
22.5	1291.212
23.0	1272.065
23.5	1250.525
24.0	1226.890
24.5	1200.115
25.0	1170.198
25.5	1137.140
26.0	1101.389
26.5	1063.395

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CANDELA TABULATION - (Cont.)

27.0	1023.456
27.5	982.918
28.0	940.437
28.5	898.403
29.0	856.520
29.5	814.636
30.0	773.500
30.5	733.113
31.0	694.969
31.5	658.021
32.0	623.168
32.5	590.708
33.0	560.642
33.5	533.567
34.0	509.185
34.5	487.944
35.0	469.246
35.5	453.390
36.0	439.479
36.5	427.811
37.0	417.490
37.5	408.664
38.0	400.587
38.5	393.407
39.0	386.975
39.5	381.141
40.0	375.905
40.5	370.969
41.0	366.182
41.5	361.844
42.0	357.506
42.5	353.468
43.0	349.429
43.5	345.241
44.0	341.052
44.5	336.864
45.0	332.526
45.5	328.038
46.0	323.401
46.5	318.615
47.0	313.678
47.5	308.592
48.0	303.507
48.5	298.122
49.0	292.587
49.5	286.753
50.0	280.919
50.5	274.936
51.0	268.653
51.5	262.520
52.0	256.238
52.5	249.955
53.0	243.972
53.5	237.390
54.0	230.809
54.5	224.227

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CANDELA TABULATION - (Cont.)

55.0	217.795
55.5	211.213
56.0	204.781
56.5	198.498
57.0	192.216
57.5	185.933
58.0	179.800
58.5	173.817
59.0	167.834
59.5	162.000
60.0	156.166
60.5	150.482
61.0	144.947
61.5	139.413
62.0	134.177
62.5	128.792
63.0	123.706
63.5	118.471
64.0	113.534
64.5	108.598
65.0	103.812
65.5	99.025
66.0	94.388
66.5	89.900
67.0	85.562
67.5	81.224
68.0	77.036
68.5	72.848
69.0	68.809
69.5	64.920
70.0	61.330
70.5	57.889
71.0	54.748
71.5	51.756
72.0	48.914
72.5	46.222
73.0	43.679
73.5	41.435
74.0	39.191
74.5	37.246
75.0	35.451
75.5	33.806
76.0	32.011
76.5	30.366
77.0	28.720
77.5	27.075
78.0	25.579
78.5	23.933
79.0	22.438
79.5	20.942
80.0	19.446
80.5	17.950
81.0	16.604
81.5	15.258
82.0	13.762
82.5	12.565

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CANDELA TABULATION - (Cont.)

83.0	11.219
83.5	9.873
84.0	8.676
84.5	7.330
85.0	6.133
85.5	5.086
86.0	4.039
86.5	3.291
87.0	2.543
87.5	1.945
88.0	1.346
88.5	0.898
89.0	0.449
89.5	0.150
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
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124.0	0.000
124.5	0.000
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126.5	0.000
127.0	0.000
127.5	0.000
128.0	0.000
128.5	0.000
129.0	0.000
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130.0	0.000
130.5	0.000
131.0	0.000
131.5	0.000
132.0	0.000
132.5	0.000
133.0	0.000
133.5	0.000
134.0	0.000
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
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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	550.38	N.A.	27.80
0-30	1065.06	N.A.	53.80
0-40	1378.7	N.A.	69.60
0-60	1828.36	N.A.	92.40
0-80	1971.43	N.A.	99.60
0-90	1979.52	N.A.	100.00
10-90	1833.07	N.A.	92.60
20-40	828.32	N.A.	41.80
20-50	1083.5	N.A.	54.70
40-70	553.66	N.A.	28.00
60-80	143.07	N.A.	7.20
70-80	39.07	N.A.	2.00
80-90	8.09	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	1979.52	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	146.45
10-20	403.93
20-30	514.68
30-40	313.64
40-50	255.18
50-60	194.48
60-70	104.00
70-80	39.07
80-90	8.09
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	53	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

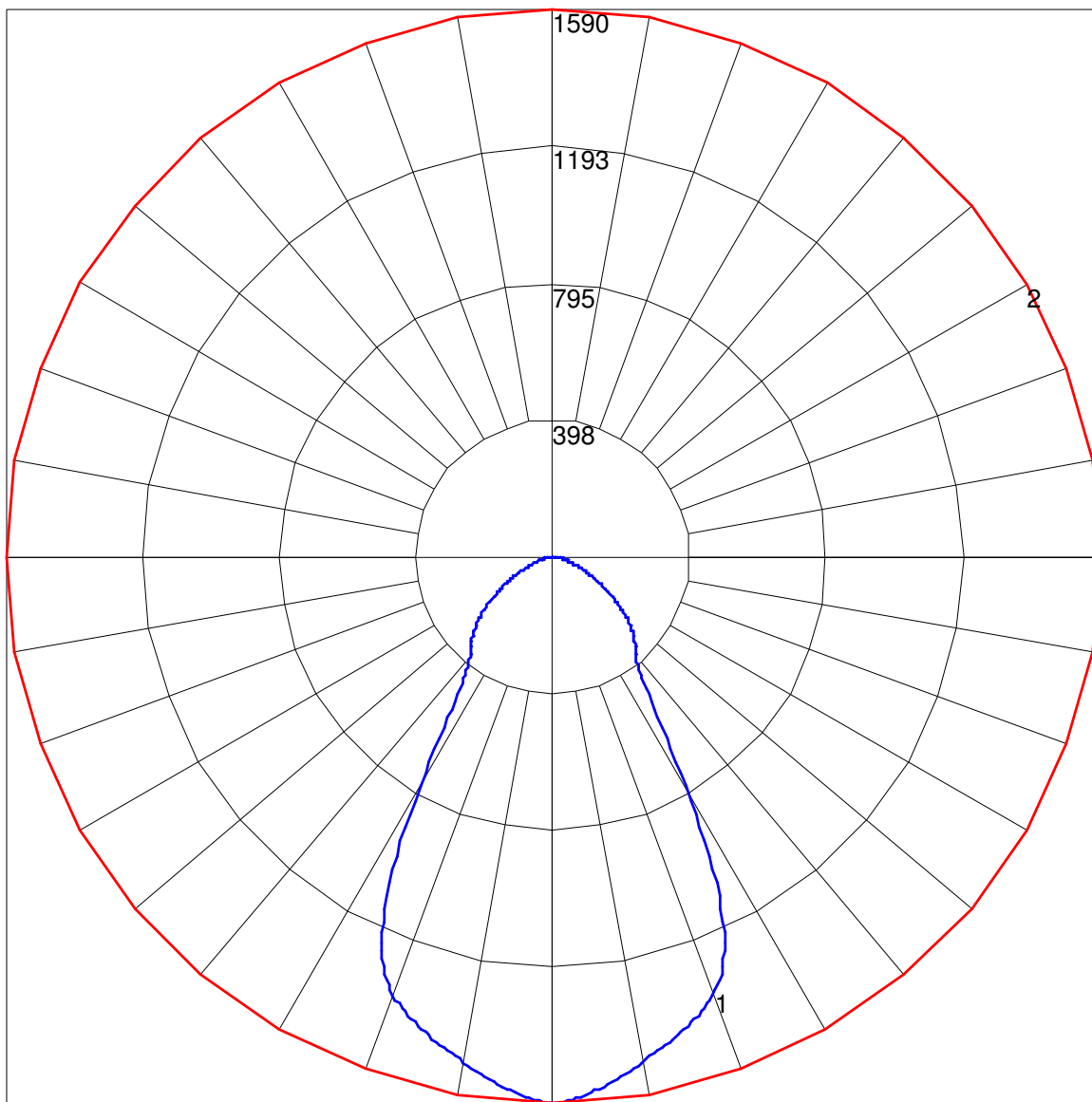
X=2H	Y=2H	22.0	23.3	22.4	23.6	23.9	22.0	23.3	22.4	23.6	23.9
	3H	22.8	23.9	23.1	24.3	24.6	22.8	23.9	23.1	24.3	24.6
	4H	22.9	24.0	23.3	24.4	24.7	22.9	24.0	23.3	24.4	24.7
	6H	23.0	24.0	23.5	24.4	24.8	23.0	24.0	23.5	24.4	24.8
	8H	23.1	24.0	23.5	24.4	24.8	23.1	24.0	23.5	24.4	24.8
	12H	23.0	23.9	23.5	24.3	24.8	23.0	23.9	23.5	24.3	24.8

UGR Viewed Endwise

4H	2H	22.3	23.4	22.7	23.7	24.1	22.3	23.4	22.7	23.7	24.1
	3H	23.2	24.1	23.6	24.5	24.9	23.2	24.1	23.6	24.5	24.9
	4H	23.4	24.2	23.8	24.6	25.1	23.4	24.2	23.8	24.6	25.1
	6H	23.6	24.3	24.0	24.7	25.2	23.6	24.3	24.0	24.7	25.2
	8H	23.6	24.2	24.1	24.7	25.2	23.6	24.2	24.1	24.7	25.2
	12H	23.6	24.2	24.1	24.7	25.1	23.6	24.2	24.1	24.7	25.1
8H	4H	23.5	24.1	23.9	24.5	25.0	23.5	24.1	23.9	24.5	25.0
	6H	23.7	24.2	24.2	24.7	25.2	23.7	24.2	24.2	24.7	25.2
	8H	23.7	24.2	24.3	24.7	25.2	23.7	24.2	24.3	24.7	25.2
	12H	23.8	24.2	24.3	24.7	25.2	23.8	24.2	24.3	24.7	25.2
12H	4H	23.4	24.0	23.9	24.5	24.9	23.4	24.0	23.9	24.5	24.9
	6H	23.7	24.1	24.2	24.6	25.1	23.7	24.1	24.2	24.6	25.1
	8H	23.7	24.2	24.3	24.6	25.2	23.7	24.2	24.3	24.6	25.2

Maximum UGR = 25.2

POLAR GRAPH



Maximum Candela = 1590.081 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.)