



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L15-835-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.
 [ISSUEDATE] 10/02/2019
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4DR-TL-L15-835-DIM-UNV-RW-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, 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	972
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	70
Total Luminaire Watts	13.9
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	22489	22489	22489
55	18159	18159	18159
65	11747	11747	11747
75	6550	6550	6550
85	3365	3365	3365

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CANDELA TABULATION

	<u>0</u>
0.0	780.980
0.5	780.980
1.0	780.245
1.5	778.776
2.0	777.306
2.5	775.837
3.0	773.633
3.5	771.429
4.0	769.224
4.5	766.286
5.0	764.082
5.5	761.143
6.0	758.204
6.5	755.265
7.0	752.327
7.5	749.388
8.0	746.449
8.5	742.776
9.0	739.837
9.5	736.898
10.0	734.106
10.5	731.094
11.0	728.008
11.5	724.996
12.0	722.131
12.5	719.265
13.0	716.400
13.5	713.461
14.0	710.522
14.5	707.584
15.0	704.571
15.5	701.486
16.0	698.253
16.5	695.020
17.0	691.714
17.5	688.188
18.0	684.441
18.5	680.400
19.0	676.506
19.5	672.318
20.0	667.763
20.5	662.547
21.0	656.522
21.5	649.984
22.0	642.490
22.5	634.188
23.0	624.784
23.5	614.204
24.0	602.596
24.5	589.445
25.0	574.751
25.5	558.514
26.0	540.955
26.5	522.294

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CANDELA TABULATION - (Cont.)

27.0	502.678
27.5	482.767
28.0	461.902
28.5	441.257
29.0	420.686
29.5	400.114
30.0	379.910
30.5	360.073
31.0	341.339
31.5	323.192
32.0	306.073
32.5	290.131
33.0	275.363
33.5	262.065
34.0	250.090
34.5	239.657
35.0	230.473
35.5	222.686
36.0	215.853
36.5	210.122
37.0	205.053
37.5	200.718
38.0	196.751
38.5	193.224
39.0	190.065
39.5	187.200
40.0	184.629
40.5	182.204
41.0	179.853
41.5	177.722
42.0	175.592
42.5	173.608
43.0	171.624
43.5	169.567
44.0	167.510
44.5	165.453
45.0	163.322
45.5	161.118
46.0	158.841
46.5	156.490
47.0	154.065
47.5	151.567
48.0	149.069
48.5	146.424
49.0	143.706
49.5	140.841
50.0	137.976
50.5	135.037
51.0	131.951
51.5	128.939
52.0	125.853
52.5	122.767
53.0	119.829
53.5	116.596
54.0	113.363
54.5	110.131

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CANDELA TABULATION - (Cont.)

55.0	106.971
55.5	103.739
56.0	100.580
56.5	97.494
57.0	94.408
57.5	91.322
58.0	88.310
58.5	85.371
59.0	82.433
59.5	79.567
60.0	76.702
60.5	73.910
61.0	71.192
61.5	68.473
62.0	65.902
62.5	63.257
63.0	60.759
63.5	58.188
64.0	55.763
64.5	53.339
65.0	50.988
65.5	48.637
66.0	46.359
66.5	44.155
67.0	42.024
67.5	39.894
68.0	37.837
68.5	35.780
69.0	33.796
69.5	31.886
70.0	30.122
70.5	28.433
71.0	26.890
71.5	25.420
72.0	24.024
72.5	22.702
73.0	21.453
73.5	20.351
74.0	19.249
74.5	18.294
75.0	17.412
75.5	16.604
76.0	15.722
76.5	14.914
77.0	14.106
77.5	13.298
78.0	12.563
78.5	11.755
79.0	11.020
79.5	10.286
80.0	9.551
80.5	8.816
81.0	8.155
81.5	7.494
82.0	6.759
82.5	6.171

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CANDELA TABULATION - (Cont.)

83.0	5.510
83.5	4.849
84.0	4.261
84.5	3.600
85.0	3.012
85.5	2.498
86.0	1.984
86.5	1.616
87.0	1.249
87.5	0.955
88.0	0.661
88.5	0.441
89.0	0.220
89.5	0.073
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
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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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118.5	0.000
119.0	0.000
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120.5	0.000
121.0	0.000
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125.0	0.000
125.5	0.000
126.0	0.000
126.5	0.000
127.0	0.000
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128.0	0.000
128.5	0.000
129.0	0.000
129.5	0.000
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
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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
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153.5	0.000
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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	270.32	N.A.	27.80
0-30	523.11	N.A.	53.80
0-40	677.16	N.A.	69.60
0-60	898.01	N.A.	92.40
0-80	968.28	N.A.	99.60
0-90	972.26	N.A.	100.00
10-90	900.33	N.A.	92.60
20-40	406.83	N.A.	41.80
20-50	532.17	N.A.	54.70
40-70	271.94	N.A.	28.00
60-80	70.27	N.A.	7.20
70-80	19.19	N.A.	2.00
80-90	3.97	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	972.26	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	71.93
10-20	198.40
20-30	252.79
30-40	154.05
40-50	125.34
50-60	95.52
60-70	51.08
70-80	19.19
80-90	3.97
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	83	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	79	69	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	45	66	56	49	44	55	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

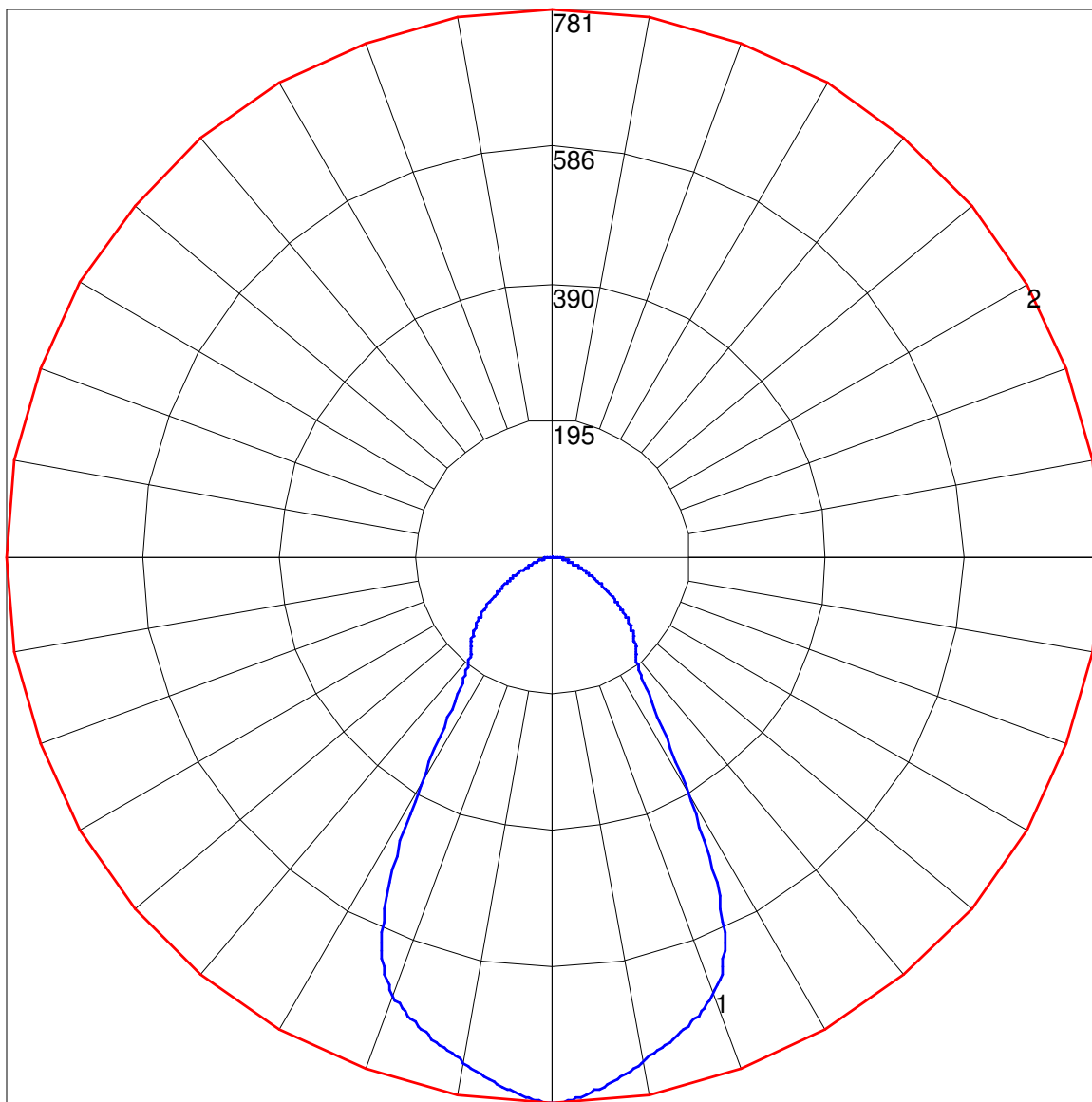
Reflectances

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	19.5	20.8	19.8	21.1	21.4	19.5	20.8	19.8	21.1	21.4
	3H	20.2	21.4	20.6	21.7	22.1	20.2	21.4	20.6	21.7	22.1
	4H	20.4	21.5	20.8	21.8	22.2	20.4	21.5	20.8	21.8	22.2
	6H	20.5	21.5	20.9	21.9	22.3	20.5	21.5	20.9	21.9	22.3
	8H	20.5	21.5	20.9	21.8	22.3	20.5	21.5	20.9	21.8	22.3
	12H	20.5	21.4	20.9	21.8	22.2	20.5	21.4	20.9	21.8	22.2
4H	2H	19.7	20.8	20.1	21.2	21.6	19.7	20.8	20.1	21.2	21.6
	3H	20.6	21.5	21.0	21.9	22.3	20.6	21.5	21.0	21.9	22.3
	4H	20.9	21.7	21.3	22.1	22.5	20.9	21.7	21.3	22.1	22.5
	6H	21.0	21.7	21.5	22.2	22.6	21.0	21.7	21.5	22.2	22.6
	8H	21.1	21.7	21.5	22.2	22.6	21.1	21.7	21.5	22.2	22.6
	12H	21.1	21.6	21.6	22.1	22.6	21.1	21.6	21.6	22.1	22.6
8H	4H	20.9	21.5	21.4	22.0	22.5	20.9	21.5	21.4	22.0	22.5
	6H	21.1	21.7	21.6	22.2	22.6	21.1	21.7	21.6	22.2	22.6
	8H	21.2	21.7	21.7	22.2	22.7	21.2	21.7	21.7	22.2	22.7
	12H	21.2	21.6	21.7	22.1	22.7	21.2	21.6	21.7	22.1	22.7
12H	4H	20.9	21.4	21.4	21.9	22.4	20.9	21.4	21.4	21.9	22.4
	6H	21.1	21.6	21.6	22.1	22.6	21.1	21.6	21.6	22.1	22.6
	8H	21.2	21.6	21.7	22.1	22.7	21.2	21.6	21.7	22.1	22.7

Maximum UGR = 22.7

POLAR GRAPH



Maximum Candela = 780.98 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.)