



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L30-835-DIM-UNV-RW-OF-BL_.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-L30-835-DIM-UNV-RW-OF-BL
 [LUMINAIRE] Black formed aluminum housing, black 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	1563
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	56
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	36163	36163	36163
55	29200	29200	29200
65	18890	18890	18890
75	10533	10533	10533
85	5412	5412	5412

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CANDELA TABULATION

	<u>0</u>
0.0	1255.835
0.5	1255.835
1.0	1254.653
1.5	1252.290
2.0	1249.928
2.5	1247.565
3.0	1244.021
3.5	1240.476
4.0	1236.932
4.5	1232.206
5.0	1228.662
5.5	1223.937
6.0	1219.211
6.5	1214.485
7.0	1209.760
7.5	1205.034
8.0	1200.309
8.5	1194.401
9.0	1189.676
9.5	1184.950
10.0	1180.461
10.5	1175.617
11.0	1170.655
11.5	1165.811
12.0	1161.204
12.5	1156.596
13.0	1151.989
13.5	1147.263
14.0	1142.538
14.5	1137.812
15.0	1132.968
15.5	1128.006
16.0	1122.808
16.5	1117.610
17.0	1112.294
17.5	1106.623
18.0	1100.598
18.5	1094.100
19.0	1087.839
19.5	1081.105
20.0	1073.780
20.5	1065.392
21.0	1055.704
21.5	1045.190
22.0	1033.140
22.5	1019.790
23.0	1004.668
23.5	987.655
24.0	968.989
24.5	947.842
25.0	924.214
25.5	898.105
26.0	869.869
26.5	839.862

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CANDELA TABULATION - (Cont.)

27.0	808.318
27.5	776.302
28.0	742.750
28.5	709.552
29.0	676.473
29.5	643.394
30.0	610.905
30.5	579.007
31.0	548.881
31.5	519.701
32.0	492.174
32.5	466.537
33.0	442.791
33.5	421.408
34.0	402.151
34.5	385.375
35.0	370.607
35.5	358.084
36.0	347.097
36.5	337.882
37.0	329.730
37.5	322.760
38.0	316.381
38.5	310.710
39.0	305.630
39.5	301.022
40.0	296.887
40.5	292.989
41.0	289.208
41.5	285.782
42.0	282.356
42.5	279.166
43.0	275.976
43.5	272.669
44.0	269.361
44.5	266.053
45.0	262.627
45.5	259.082
46.0	255.420
46.5	251.639
47.0	247.741
47.5	243.724
48.0	239.707
48.5	235.454
49.0	231.083
49.5	226.476
50.0	221.868
50.5	217.142
51.0	212.181
51.5	207.337
52.0	202.375
52.5	197.413
53.0	192.687
53.5	187.489
54.0	182.291
54.5	177.093

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CANDELA TABULATION - (Cont.)

55.0	172.013
55.5	166.815
56.0	161.734
56.5	156.773
57.0	151.811
57.5	146.849
58.0	142.005
58.5	137.279
59.0	132.554
59.5	127.946
60.0	123.339
60.5	118.849
61.0	114.478
61.5	110.107
62.0	105.972
62.5	101.719
63.0	97.702
63.5	93.567
64.0	89.669
64.5	85.770
65.0	81.990
65.5	78.209
66.0	74.547
66.5	71.003
67.0	67.576
67.5	64.150
68.0	60.842
68.5	57.534
69.0	54.345
69.5	51.273
70.0	48.438
70.5	45.720
71.0	43.239
71.5	40.877
72.0	38.632
72.5	36.505
73.0	34.497
73.5	32.725
74.0	30.953
74.5	29.417
75.0	27.999
75.5	26.700
76.0	25.282
76.5	23.983
77.0	22.683
77.5	21.383
78.0	20.202
78.5	18.902
79.0	17.721
79.5	16.540
80.0	15.358
80.5	14.177
81.0	13.114
81.5	12.050
82.0	10.869
82.5	9.924

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CANDELA TABULATION - (Cont.)

83.0	8.861
83.5	7.797
84.0	6.852
84.5	5.789
85.0	4.844
85.5	4.017
86.0	3.190
86.5	2.599
87.0	2.008
87.5	1.536
88.0	1.063
88.5	0.709
89.0	0.354
89.5	0.118
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
123.5	0.000
124.0	0.000
124.5	0.000
125.0	0.000
125.5	0.000
126.0	0.000
126.5	0.000
127.0	0.000
127.5	0.000
128.0	0.000
128.5	0.000
129.0	0.000
129.5	0.000
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131.5	0.000
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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
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	434.69	N.A.	27.80
0-30	841.18	N.A.	53.80
0-40	1088.89	N.A.	69.60
0-60	1444.03	N.A.	92.40
0-80	1557.02	N.A.	99.60
0-90	1563.41	N.A.	100.00
10-90	1447.75	N.A.	92.60
20-40	654.20	N.A.	41.80
20-50	855.74	N.A.	54.70
40-70	437.28	N.A.	28.00
60-80	113.00	N.A.	7.20
70-80	30.86	N.A.	2.00
80-90	6.39	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	1563.41	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	115.66
10-20	319.02
20-30	406.49
30-40	247.71
40-50	201.54
50-60	153.60
60-70	82.14
70-80	30.86
80-90	6.39
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

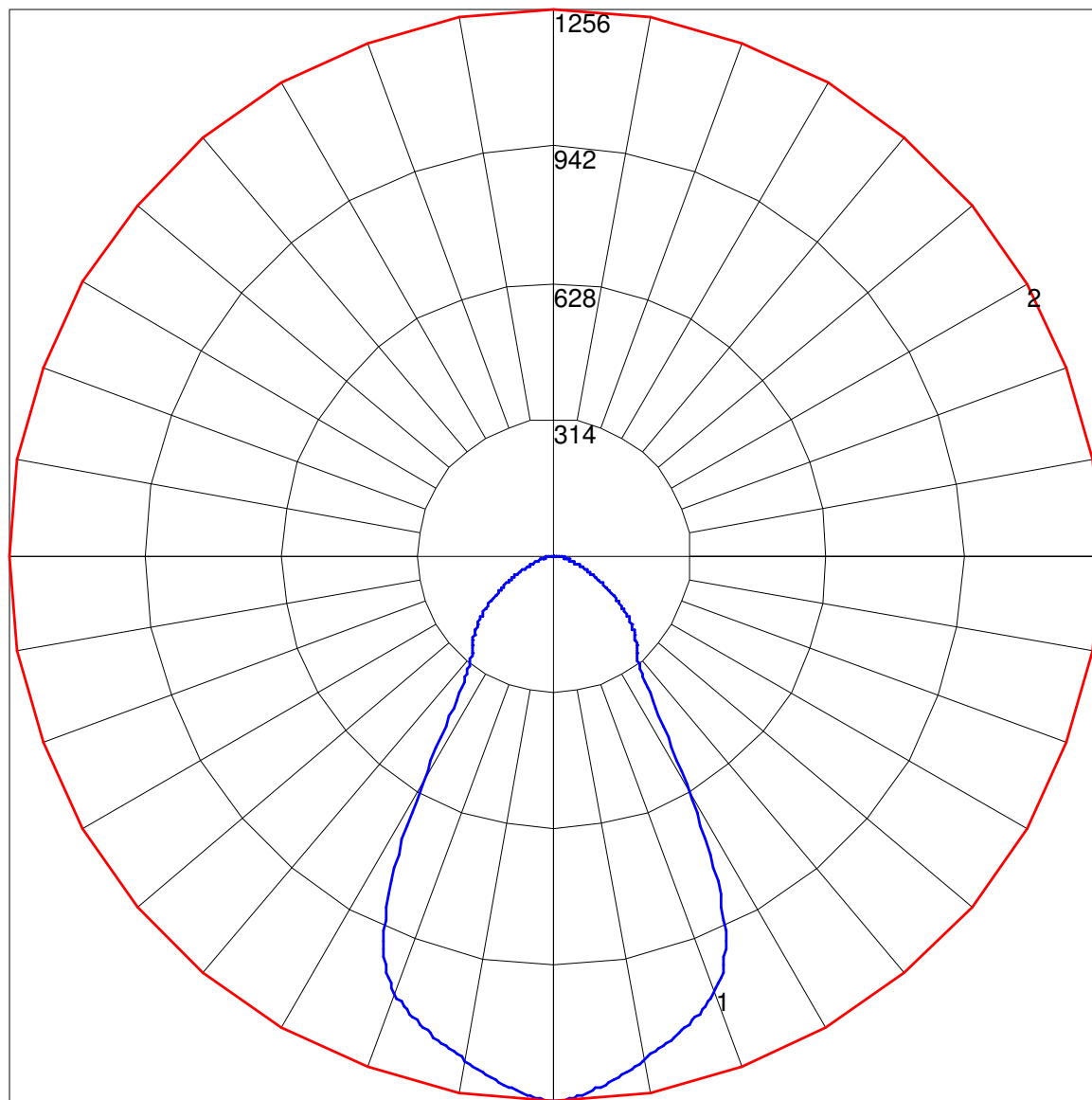
X=2H	Y=2H	21.2	22.5	21.5	22.8	23.1	21.2	22.5	21.5	22.8	23.1
	3H	21.9	23.1	22.3	23.4	23.8	21.9	23.1	22.3	23.4	23.8
	4H	22.1	23.2	22.5	23.5	23.9	22.1	23.2	22.5	23.5	23.9
	6H	22.2	23.2	22.6	23.6	24.0	22.2	23.2	22.6	23.6	24.0
	8H	22.2	23.2	22.6	23.5	24.0	22.2	23.2	22.6	23.5	24.0
	12H	22.2	23.1	22.6	23.5	23.9	22.2	23.1	22.6	23.5	23.9

UGR Viewed Endwise

4H	2H	21.4	22.5	21.8	22.9	23.3	21.4	22.5	21.8	22.9	23.3
	3H	22.3	23.2	22.7	23.6	24.0	22.3	23.2	22.7	23.6	24.0
	4H	22.6	23.4	23.0	23.8	24.2	22.6	23.4	23.0	23.8	24.2
	6H	22.7	23.4	23.2	23.9	24.3	22.7	23.4	23.2	23.9	24.3
	8H	22.8	23.4	23.2	23.9	24.3	22.8	23.4	23.2	23.9	24.3
	12H	22.8	23.3	23.3	23.8	24.3	22.8	23.3	23.3	23.8	24.3
8H	4H	22.6	23.2	23.1	23.7	24.2	22.6	23.2	23.1	23.7	24.2
	6H	22.8	23.4	23.3	23.9	24.3	22.8	23.4	23.3	23.9	24.3
	8H	22.9	23.4	23.4	23.9	24.4	22.9	23.4	23.4	23.9	24.4
	12H	22.9	23.3	23.4	23.8	24.4	22.9	23.3	23.4	23.8	24.4
12H	4H	22.6	23.1	23.1	23.6	24.1	22.6	23.1	23.1	23.6	24.1
	6H	22.8	23.3	23.3	23.8	24.3	22.8	23.3	23.3	23.8	24.3
	8H	22.9	23.3	23.4	23.8	24.4	22.9	23.3	23.4	23.8	24.4

Maximum UGR = 24.4

POLAR GRAPH



Maximum Candela = 1255.835 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.)