



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L15-835-DIM-UNV-RM-OF-CS_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM 12316380.14
 [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-RM-OF-CS
 [LUMINAIRE] Black formed aluminum housing, specular reflector, clear plas
 [MORE] tic optic, clear glass 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	1319
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	95
Total Luminaire Watts	13.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.52
Spacing Criterion (90-270)	0.52
Spacing Criterion (Diagonal)	0.52
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	7568	7568	7568
55	5264	5264	5264
65	3758	3758	3758
75	2516	2516	2516
85	2052	2052	2052

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CANDELA TABULATION

	<u>0</u>
0.0	3803.423
0.5	3800.483
1.0	3791.665
1.5	3777.704
2.0	3758.599
2.5	3734.350
3.0	3705.692
3.5	3671.890
4.0	3632.945
4.5	3591.060
5.0	3544.766
5.5	3493.329
6.0	3438.218
6.5	3379.432
7.0	3316.238
7.5	3248.634
8.0	3178.092
8.5	3103.140
9.0	3025.984
9.5	2945.889
10.0	2862.854
10.5	2777.615
11.0	2690.172
11.5	2601.259
12.0	2510.876
12.5	2421.228
13.0	2331.580
13.5	2241.198
14.0	2150.080
14.5	2058.962
15.0	1969.315
15.5	1880.402
16.0	1791.488
16.5	1704.780
17.0	1618.806
17.5	1534.302
18.0	1451.267
18.5	1370.437
19.0	1293.281
19.5	1217.595
20.0	1144.113
20.5	1074.305
21.0	1006.702
21.5	942.038
22.0	881.048
22.5	822.997
23.0	768.621
23.5	716.595
24.0	667.363
24.5	620.995
25.0	577.641
25.5	537.300
26.0	499.677
26.5	464.406

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CANDELA TABULATION - (Cont.)

27.0	431.633
27.5	401.285
28.0	373.068
28.5	346.761
29.0	322.659
29.5	300.174
30.0	279.378
30.5	260.273
31.0	242.637
31.5	226.324
32.0	211.260
32.5	197.446
33.0	184.660
33.5	172.756
34.0	161.881
34.5	151.740
35.0	142.408
35.5	133.811
36.0	125.801
36.5	118.453
37.0	111.619
37.5	105.447
38.0	99.715
38.5	94.571
39.0	89.795
39.5	85.459
40.0	81.565
40.5	77.891
41.0	74.584
41.5	71.498
42.0	68.632
42.5	65.987
43.0	63.488
43.5	61.137
44.0	58.932
44.5	56.875
45.0	54.964
45.5	53.201
46.0	51.511
46.5	49.894
47.0	48.351
47.5	46.955
48.0	45.632
48.5	44.310
49.0	43.060
49.5	41.885
50.0	40.782
50.5	39.680
51.0	38.651
51.5	37.549
52.0	36.594
52.5	35.565
53.0	34.683
53.5	33.728
54.0	32.773
54.5	31.891

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CANDELA TABULATION - (Cont.)

55.0	31.009
55.5	30.128
56.0	29.319
56.5	28.511
57.0	27.703
57.5	26.894
58.0	26.086
58.5	25.351
59.0	24.616
59.5	23.882
60.0	23.147
60.5	22.412
61.0	21.677
61.5	21.016
62.0	20.281
62.5	19.620
63.0	18.885
63.5	18.224
64.0	17.562
64.5	16.901
65.0	16.313
65.5	15.652
66.0	15.064
66.5	14.402
67.0	13.815
67.5	13.227
68.0	12.639
68.5	12.125
69.0	11.537
69.5	11.022
70.0	10.508
70.5	10.067
71.0	9.626
71.5	9.185
72.0	8.744
72.5	8.377
73.0	8.010
73.5	7.642
74.0	7.348
74.5	6.981
75.0	6.687
75.5	6.393
76.0	6.099
76.5	5.879
77.0	5.585
77.5	5.291
78.0	5.070
78.5	4.776
79.0	4.556
79.5	4.335
80.0	4.042
80.5	3.821
81.0	3.601
81.5	3.380
82.0	3.086
82.5	2.866

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CANDELA TABULATION - (Cont.)

83.0	2.645
83.5	2.425
84.0	2.204
84.5	1.984
85.0	1.837
85.5	1.617
86.0	1.396
86.5	1.176
87.0	1.029
87.5	0.882
88.0	0.735
88.5	0.588
89.0	0.514
89.5	0.367
90.0	0.294
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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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
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161.0	0.000
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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	851.08	N.A.	64.50
0-30	1127.28	N.A.	85.40
0-40	1222.05	N.A.	92.60
0-60	1293.7	N.A.	98.10
0-80	1317.22	N.A.	99.80
0-90	1319.31	N.A.	100.00
10-90	1002.89	N.A.	76.00
20-40	370.98	N.A.	28.10
20-50	414.67	N.A.	31.40
40-70	87.90	N.A.	6.70
60-80	23.52	N.A.	1.80
70-80	7.27	N.A.	0.60
80-90	2.09	N.A.	0.20
90-110	0.01	N.A.	0.00
90-120	0.01	N.A.	0.00
90-130	0.01	N.A.	0.00
90-150	0.01	N.A.	0.00
90-180	0.01	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1319.31	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	316.41
10-20	534.66
20-30	276.20
30-40	94.77
40-50	43.70
50-60	27.95
60-70	16.25
70-80	7.27
80-90	2.09
90-100	0.01
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	114	112	109	107	112	109	107	106	105	104	102	102	101	99	98	97	97	95
2	109	105	101	98	107	103	100	97	100	98	95	97	95	93	95	93	91	90
3	105	99	95	92	103	98	94	91	95	92	89	93	90	88	91	89	87	85
4	101	94	90	86	99	93	89	85	91	87	84	89	86	83	87	85	83	81
5	97	90	85	81	95	89	84	81	87	83	80	86	82	79	84	81	79	77
6	93	86	81	77	92	85	80	77	84	79	76	82	79	76	81	78	75	74
7	90	82	77	74	89	82	77	73	80	76	73	79	75	73	78	75	72	71
8	87	79	74	70	86	78	74	70	77	73	70	76	73	70	75	72	69	68
9	84	76	71	68	83	75	71	67	74	70	67	74	70	67	73	69	67	66
10	81	73	68	65	80	73	68	65	72	68	65	71	67	65	71	67	64	63

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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	10.3	11.3	10.7	11.6	11.9	10.3	11.3	10.7	11.6	11.9
	3H	11.3	12.1	11.6	12.5	12.8	11.3	12.1	11.6	12.5	12.8
	4H	11.6	12.4	12.0	12.7	13.1	11.6	12.4	12.0	12.7	13.1
	6H	11.8	12.5	12.2	12.9	13.3	11.8	12.5	12.2	12.9	13.3
	8H	11.8	12.5	12.3	12.9	13.3	11.8	12.5	12.3	12.9	13.3
	12H	11.9	12.5	12.3	12.9	13.3	11.9	12.5	12.3	12.9	13.3

UGR Viewed Endwise

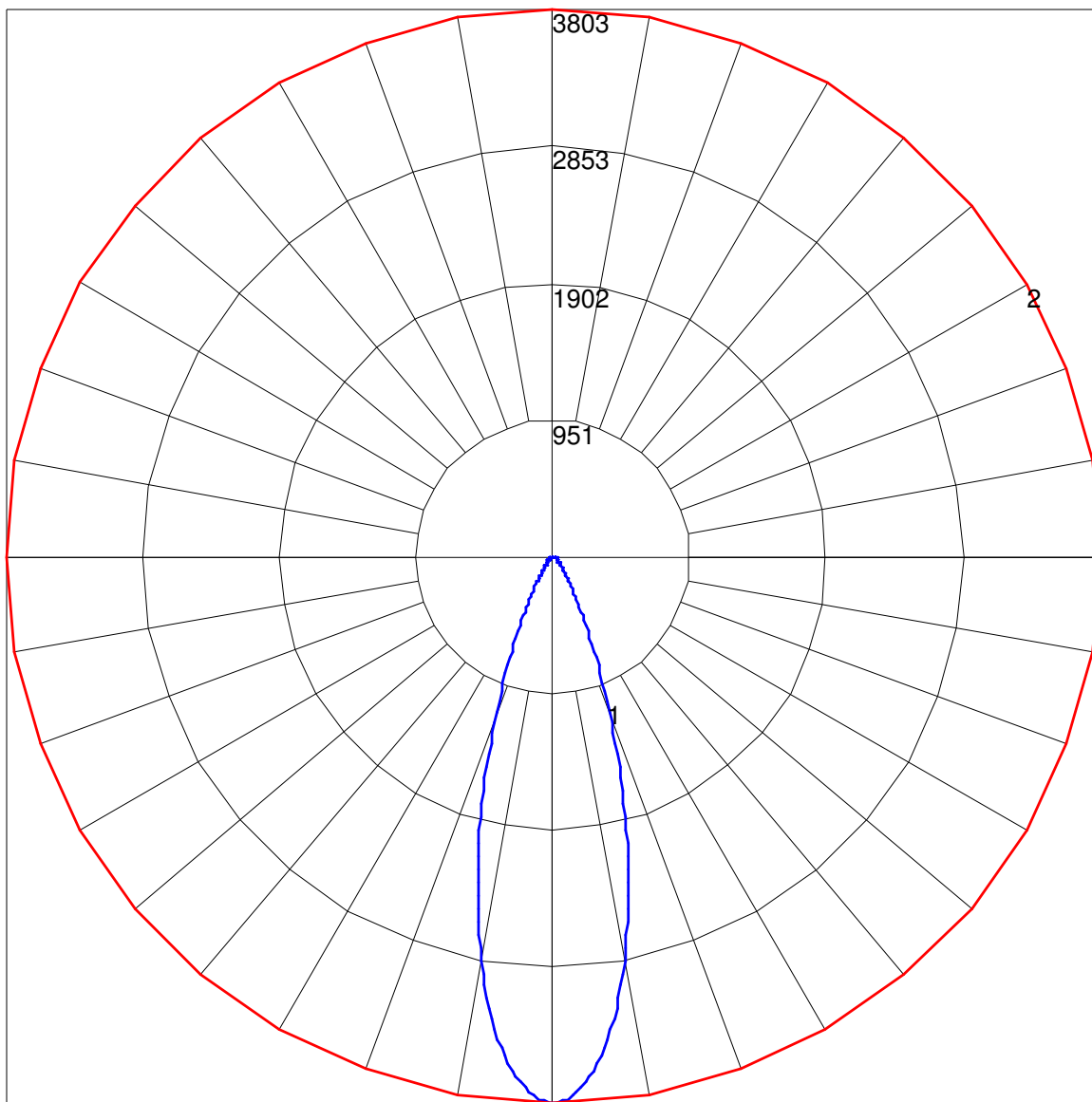
4H	2H	10.6	11.4	11.0	11.8	12.1	10.6	11.4	11.0	11.8	12.1
	3H	11.7	12.4	12.1	12.8	13.2	11.7	12.4	12.1	12.8	13.2
	4H	12.1	12.7	12.5	13.1	13.5	12.1	12.7	12.5	13.1	13.5
	6H	12.4	12.9	12.9	13.3	13.8	12.4	12.9	12.9	13.3	13.8
	8H	12.5	13.0	13.0	13.4	13.9	12.5	13.0	13.0	13.4	13.9
	12H	12.5	12.9	13.0	13.4	13.9	12.5	12.9	13.0	13.4	13.9

8H	4H	12.2	12.6	12.6	13.1	13.5	12.2	12.6	12.6	13.1	13.5
	6H	12.5	12.9	13.1	13.4	13.9	12.5	12.9	13.1	13.4	13.9
	8H	12.7	13.0	13.3	13.6	14.1	12.7	13.0	13.3	13.6	14.1
	12H	12.8	13.1	13.4	13.6	14.2	12.8	13.1	13.4	13.6	14.2

12H	4H	12.1	12.5	12.6	13.0	13.5	12.1	12.5	12.6	13.0	13.5
	6H	12.6	12.9	13.1	13.4	13.9	12.6	12.9	13.1	13.4	13.9
	8H	12.8	13.0	13.3	13.5	14.1	12.8	13.0	13.3	13.5	14.1

Maximum UGR = 14.2

POLAR GRAPH



Maximum Candela = 3803.423 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.)