



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4PR-TL-L15-835-DIM-UNV-LW-OF-WH_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN from UL 12316380.33
 [TESTLAB] UL Verification Services Inc.
 [ISSUE DATE] 12/112/2019
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4PR-TL-L15-835-DIM-UNV-LW-OF-WH-DIM-UNV
 [LUMINAIRE] Black formed aluminum housing, white reflector, clear glass
 [MORE] s patterned lens enclosure
 [LAMP] One white LED
 [OTHER] This test was performed using the calibrated photodetector met
 [MORE] hod of absolute photometry.

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1405
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	84
Total Luminaire Watts	16.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.84
Spacing Criterion (90-270)	0.84
Spacing Criterion (Diagonal)	1.00
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.35 ft (Diameter)
Luminous Width (90-270)	0.35 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	36616	36616	36616
55	25908	25908	25908
65	20433	20433	20433
75	16578	16578	16578
85	12110	12110	12110

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CANDELA TABULATION

	<u>0</u>
0.0	1143.500
0.5	1142.152
1.0	1139.456
1.5	1134.514
2.0	1127.774
2.5	1118.788
3.0	1108.454
3.5	1096.772
4.0	1083.741
4.5	1069.813
5.0	1054.985
5.5	1038.810
6.0	1022.186
6.5	1005.561
7.0	988.487
7.5	970.964
8.0	954.340
8.5	937.715
9.0	921.989
9.5	907.162
10.0	894.132
10.5	882.000
11.0	869.869
11.5	858.187
12.0	847.852
12.5	837.968
13.0	829.431
13.5	820.894
14.0	813.255
14.5	805.617
15.0	797.979
15.5	790.340
16.0	783.601
16.5	776.861
17.0	771.020
17.5	765.179
18.0	760.237
18.5	755.743
19.0	751.250
19.5	747.656
20.0	744.061
20.5	740.916
21.0	737.771
21.5	735.075
22.0	731.930
22.5	728.335
23.0	724.292
23.5	720.248
24.0	716.204
24.5	711.262
25.0	705.870
25.5	700.029
26.0	693.738
26.5	687.448

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CANDELA TABULATION - (Cont.)

27.0	680.708
27.5	673.519
28.0	666.330
28.5	658.243
29.0	650.155
29.5	641.618
30.0	632.632
30.5	623.196
31.0	612.862
31.5	602.528
32.0	591.744
32.5	580.512
33.0	568.380
33.5	556.249
34.0	543.668
34.5	531.087
35.0	517.608
35.5	503.679
36.0	489.301
36.5	474.474
37.0	459.197
37.5	443.876
38.0	428.015
38.5	412.199
39.0	396.338
39.5	380.433
40.0	364.707
40.5	349.071
41.0	333.974
41.5	319.371
42.0	305.353
42.5	292.008
43.0	279.382
43.5	267.655
44.0	256.692
44.5	246.493
45.0	236.967
45.5	228.251
46.0	220.343
46.5	213.019
47.0	206.234
47.5	199.989
48.0	194.193
48.5	188.756
49.0	183.679
49.5	178.826
50.0	174.288
50.5	169.885
51.0	165.706
51.5	161.618
52.0	157.709
52.5	153.889
53.0	150.205
53.5	146.566
54.0	143.016
54.5	139.467

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CANDELA TABULATION - (Cont.)

55.0	136.007
55.5	132.682
56.0	129.402
56.5	126.167
57.0	122.977
57.5	119.877
58.0	116.776
58.5	113.811
59.0	110.845
59.5	107.925
60.0	105.049
60.5	102.219
61.0	99.478
61.5	96.692
62.0	94.041
62.5	91.390
63.0	88.874
63.5	86.313
64.0	83.842
64.5	81.415
65.0	79.034
65.5	76.743
66.0	74.451
66.5	72.205
67.0	70.048
67.5	67.846
68.0	65.734
68.5	63.623
69.0	61.511
69.5	59.444
70.0	57.422
70.5	55.400
71.0	53.468
71.5	51.536
72.0	49.649
72.5	47.852
73.0	46.055
73.5	44.302
74.0	42.595
74.5	40.932
75.0	39.270
75.5	37.652
76.0	36.035
76.5	34.417
77.0	32.800
77.5	31.272
78.0	29.700
78.5	28.127
79.0	26.599
79.5	25.117
80.0	23.634
80.5	22.151
81.0	20.713
81.5	19.276
82.0	17.883
82.5	16.490

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CANDELA TABULATION - (Cont.)

83.0	15.097
83.5	13.704
84.0	12.356
84.5	11.008
85.0	9.660
85.5	8.222
86.0	6.785
86.5	5.437
87.0	4.268
87.5	3.235
88.0	2.426
88.5	1.707
89.0	1.168
89.5	0.674
90.0	0.404
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
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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
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	320.83	N.A.	22.80
0-30	643.07	N.A.	45.80
0-40	960.37	N.A.	68.40
0-60	1273.17	N.A.	90.60
0-80	1393.89	N.A.	99.20
0-90	1405.00	N.A.	100.00
10-90	1309.86	N.A.	93.20
20-40	639.54	N.A.	45.50
20-50	829.86	N.A.	59.10
40-70	391.70	N.A.	27.90
60-80	120.72	N.A.	8.60
70-80	41.82	N.A.	3.00
80-90	11.11	N.A.	0.80
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	1405.01	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	95.14
10-20	225.69
20-30	322.24
30-40	317.30
40-50	190.33
50-60	122.47
60-70	78.90
70-80	41.82
80-90	11.11
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	182	182	182	182	177	177	177	177	170	170	170	162	162	162	156	156	156	153
1	170	164	159	154	166	161	156	152	154	150	147	148	145	143	143	141	138	135
2	158	148	140	133	154	145	138	131	140	134	128	135	130	125	131	126	123	120
3	147	134	124	116	143	132	122	115	127	119	113	123	117	111	120	114	109	106
4	137	122	111	102	134	120	110	102	116	108	101	113	105	99	110	103	98	95
5	128	111	100	92	125	110	99	91	107	98	90	104	96	89	102	94	89	86
6	120	102	91	83	117	101	90	82	99	89	82	96	88	81	94	86	80	78
7	112	95	83	75	110	93	83	75	91	82	74	89	81	74	87	80	74	71
8	106	88	76	69	103	87	76	69	85	75	68	83	74	68	81	74	68	65
9	99	82	71	63	98	81	70	63	79	70	63	78	69	63	76	68	62	60
10	94	76	66	59	92	75	65	58	74	65	58	73	64	58	71	64	58	55

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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

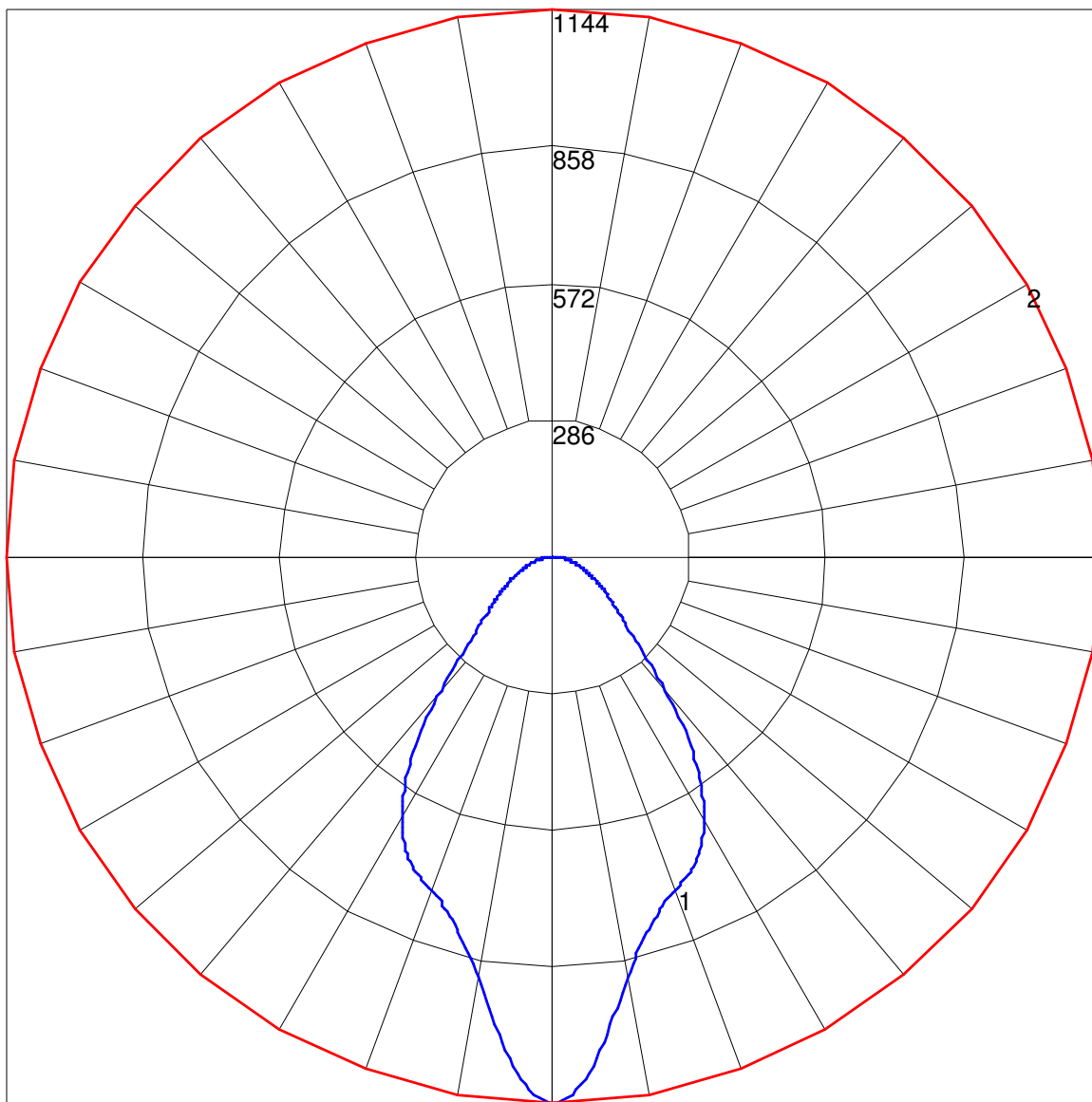
X=2H	Y=2H	19.0	20.4	19.4	20.7	21.0	19.0	20.4	19.4	20.7	21.0
	3H	20.4	21.6	20.8	21.9	22.3	20.4	21.6	20.8	21.9	22.3
	4H	20.9	22.0	21.3	22.3	22.7	20.9	22.0	21.3	22.3	22.7
	6H	21.3	22.3	21.7	22.7	23.0	21.3	22.3	21.7	22.7	23.0
	8H	21.4	22.3	21.8	22.7	23.1	21.4	22.3	21.8	22.7	23.1
	12H	21.4	22.4	21.9	22.7	23.2	21.4	22.4	21.9	22.7	23.2

UGR Viewed Endwise

4H	2H	19.5	20.6	19.9	20.9	21.3	19.5	20.6	19.9	20.9	21.3
	3H	21.0	22.0	21.5	22.4	22.8	21.0	22.0	21.5	22.4	22.8
	4H	21.7	22.5	22.1	22.9	23.3	21.7	22.5	22.1	22.9	23.3
	6H	22.2	22.9	22.6	23.3	23.8	22.2	22.9	22.6	23.3	23.8
	8H	22.3	23.0	22.8	23.4	23.9	22.3	23.0	22.8	23.4	23.9
	12H	22.4	23.0	22.9	23.5	24.0	22.4	23.0	22.9	23.5	24.0
8H	4H	21.9	22.5	22.4	23.0	23.5	21.9	22.5	22.4	23.0	23.5
	6H	22.5	23.0	23.0	23.5	24.0	22.5	23.0	23.0	23.5	24.0
	8H	22.7	23.2	23.2	23.7	24.2	22.7	23.2	23.2	23.7	24.2
	12H	22.9	23.3	23.4	23.8	24.4	22.9	23.3	23.4	23.8	24.4
12H	4H	21.9	22.5	22.4	22.9	23.4	21.9	22.5	22.4	22.9	23.4
	6H	22.5	23.0	23.0	23.5	24.0	22.5	23.0	23.0	23.5	24.0
	8H	22.8	23.2	23.3	23.7	24.3	22.8	23.2	23.3	23.7	24.3

Maximum UGR = 24.4

POLAR GRAPH



Maximum Candela = 1143.5 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.)