



IES INDOOR REPORT
PHOTOMETRIC FILENAME : 2DR-P15-9TW-POE-OW-OF-CS_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM 13131414.01
[TESTLAB] UL Verification Services Inc.
[ISSUE DATE] 06 JUNE 2020
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
[LUMCAT] 2DR-P15-9TW-POE-OW-OF-CS
[LUMINAIRE] Aluminum housing and reflector, no enclosure
[LAMP] One white LED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1462
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	62
Total Luminaire Watts	23.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.04
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.21 ft (Diameter)
Luminous Width (90-270)	0.21 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	39681	39681	39681
55	11294	11294	11294
65	5124	5124	5124
75	1587	1587	1587
85	428	428	428

IES INDOOR REPORT
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CANDELA TABULATION

	<u>0</u>
0.0	1186.230
0.5	1186.230
1.0	1186.230
1.5	1186.820
2.0	1187.410
2.5	1188.000
3.0	1188.590
3.5	1190.360
4.0	1192.719
4.5	1195.668
5.0	1199.208
5.5	1203.337
6.0	1206.876
6.5	1211.595
7.0	1216.314
7.5	1221.033
8.0	1226.342
8.5	1230.471
9.0	1234.010
9.5	1236.369
10.0	1238.729
10.5	1240.499
11.0	1241.678
11.5	1242.268
12.0	1241.678
12.5	1241.088
13.0	1239.319
13.5	1237.549
14.0	1235.190
14.5	1233.420
15.0	1231.061
15.5	1228.701
16.0	1225.752
16.5	1223.982
17.0	1221.623
17.5	1219.853
18.0	1218.673
18.5	1216.904
19.0	1213.954
19.5	1208.646
20.0	1203.337
20.5	1196.258
21.0	1188.000
21.5	1179.152
22.0	1170.304
22.5	1159.686
23.0	1148.479
23.5	1136.091
24.0	1123.704
24.5	1110.727
25.0	1096.570
25.5	1081.233
26.0	1064.717
26.5	1046.431

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 2DR-P15-9TW-POE-OW-OF-CS_.IES

CANDELA TABULATION - (Cont.)

27.0	1026.965
27.5	1004.550
28.0	983.315
28.5	960.900
29.0	939.075
29.5	917.249
30.0	894.244
30.5	870.649
31.0	846.465
31.5	821.690
32.0	798.095
32.5	773.321
33.0	747.956
33.5	722.592
34.0	696.048
34.5	669.504
35.0	642.369
35.5	614.056
36.0	584.739
36.5	554.007
37.0	521.151
37.5	486.290
38.0	450.248
38.5	413.500
39.0	376.928
39.5	341.476
40.0	307.736
40.5	276.001
41.0	246.389
41.5	218.724
42.0	192.888
42.5	169.175
43.0	147.763
43.5	128.887
44.0	112.960
44.5	99.688
45.0	88.658
45.5	79.515
46.0	71.905
46.5	65.417
47.0	59.931
47.5	55.212
48.0	51.083
48.5	47.426
49.0	44.181
49.5	41.291
50.0	38.578
50.5	36.159
51.0	33.918
51.5	31.853
52.0	29.965
52.5	28.137
53.0	26.426
53.5	24.775
54.0	23.241
54.5	21.766

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 2DR-P15-9TW-POE-OW-OF-CS_.IES

CANDELA TABULATION - (Cont.)

55.0	20.469
55.5	19.289
56.0	18.227
56.5	17.224
57.0	16.339
57.5	15.514
58.0	14.747
58.5	14.039
59.0	13.390
59.5	12.682
60.0	12.092
60.5	11.443
61.0	10.913
61.5	10.323
62.0	9.792
62.5	9.261
63.0	8.789
63.5	8.258
64.0	7.786
64.5	7.314
65.0	6.843
65.5	6.430
66.0	6.017
66.5	5.545
67.0	5.191
67.5	4.778
68.0	4.424
68.5	4.129
69.0	3.775
69.5	3.480
70.0	3.185
70.5	2.949
71.0	2.713
71.5	2.477
72.0	2.242
72.5	2.065
73.0	1.888
73.5	1.711
74.0	1.593
74.5	1.416
75.0	1.298
75.5	1.180
76.0	1.062
76.5	1.003
77.0	0.885
77.5	0.767
78.0	0.708
78.5	0.649
79.0	0.590
79.5	0.531
80.0	0.472
80.5	0.413
81.0	0.354
81.5	0.354
82.0	0.295
82.5	0.236

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 2DR-P15-9TW-POE-OW-OF-CS_.IES

CANDELA TABULATION - (Cont.)

83.0	0.236
83.5	0.177
84.0	0.177
84.5	0.177
85.0	0.118
85.5	0.118
86.0	0.118
86.5	0.059
87.0	0.059
87.5	0.059
88.0	0.059
88.5	0.059
89.0	0.059
89.5	0.059
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
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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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 2DR-P15-9TW-POE-OW-OF-CS_.IES

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
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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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 2DR-P15-9TW-POE-OW-OF-CS_.IES

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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146.0	0.000
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147.5	0.000
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152.0	0.000
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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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 2DR-P15-9TW-POE-OW-OF-CS_.IES

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	463.83	N.A.	31.70
0-30	958.85	N.A.	65.60
0-40	1344.91	N.A.	92.00
0-60	1453.53	N.A.	99.40
0-80	1462.07	N.A.	100.00
0-90	1462.26	N.A.	100.00
10-90	1346.28	N.A.	92.10
20-40	881.08	N.A.	60.30
20-50	970.04	N.A.	66.30
40-70	115.61	N.A.	7.90
60-80	8.55	N.A.	0.60
70-80	1.55	N.A.	0.10
80-90	0.19	N.A.	0.00
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	1462.26	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	115.98
10-20	347.85
20-30	495.03
30-40	386.05
40-50	88.96
50-60	19.66
60-70	6.99
70-80	1.55
80-90	0.19
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	113	110	108	106	111	108	106	104	104	102	101	100	99	98	97	96	95	93
2	107	102	98	95	105	101	97	94	97	94	92	94	92	90	92	90	88	86
3	102	95	90	86	100	94	89	85	91	87	84	88	85	82	86	83	81	79
4	96	88	83	78	94	87	82	78	85	80	77	83	79	76	81	78	75	73
5	91	82	76	72	89	81	76	71	79	75	71	78	73	70	76	72	69	68
6	86	77	71	66	85	76	70	66	74	69	65	73	68	65	72	68	64	63
7	81	72	65	61	80	71	65	61	70	64	61	69	64	60	67	63	60	58
8	77	67	61	57	76	67	61	57	66	60	56	64	60	56	64	59	56	54
9	73	63	57	53	72	63	57	53	62	56	52	61	56	52	60	55	52	51
10	70	59	53	49	68	59	53	49	58	53	49	57	52	49	57	52	49	47

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UGR TABLE - CORRECTED

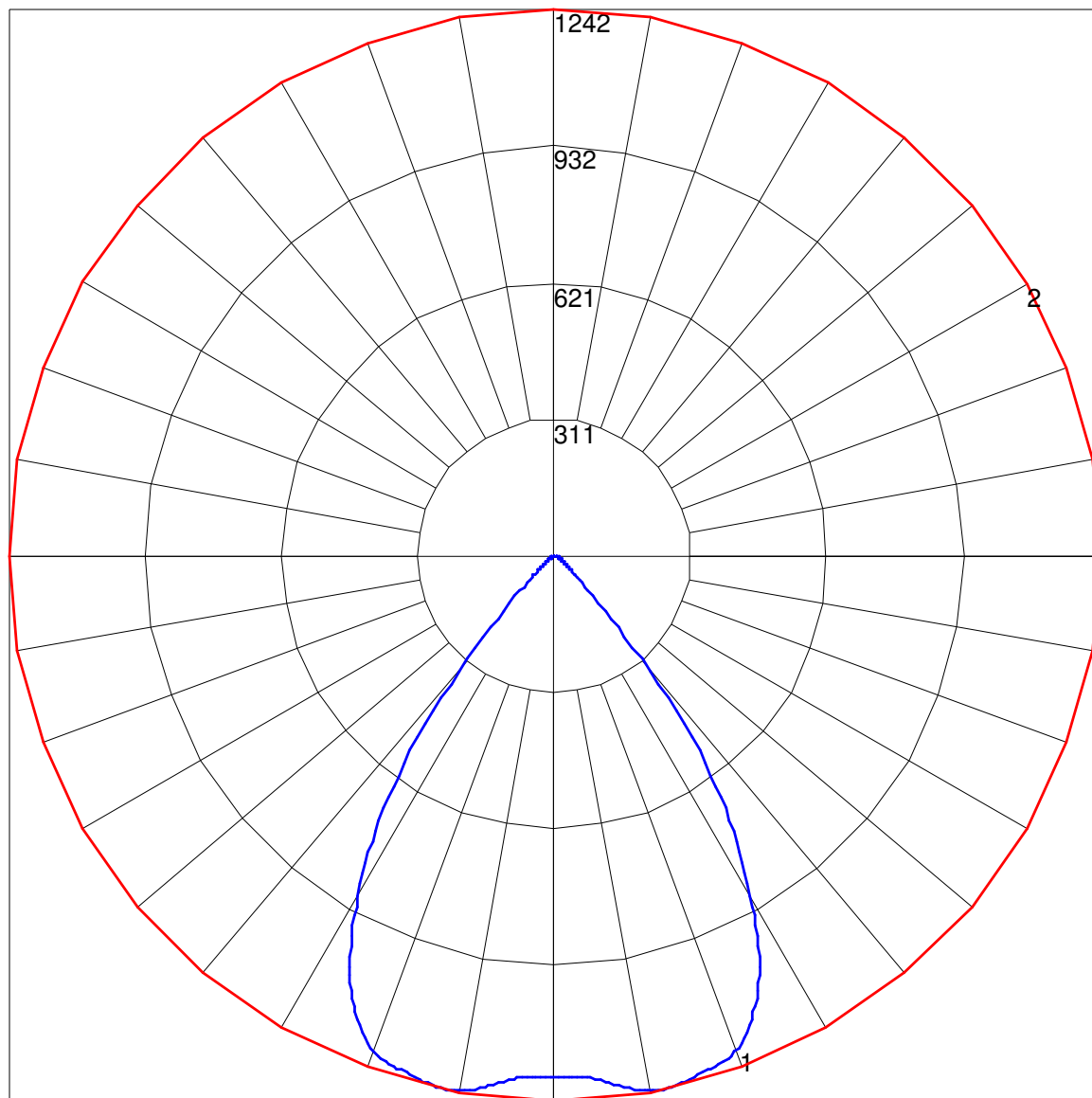
Reflectances

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	10.1	11.1	10.5	11.5	11.8	10.1	11.1	10.5	11.5	11.8
	3H	10.4	11.3	10.8	11.6	12.0	10.4	11.3	10.8	11.6	12.0
	4H	10.4	11.2	10.8	11.5	11.9	10.4	11.2	10.8	11.5	11.9
	6H	10.3	11.0	10.7	11.4	11.8	10.3	11.0	10.7	11.4	11.8
	8H	10.3	10.9	10.7	11.3	11.7	10.3	10.9	10.7	11.3	11.7
	12H	10.2	10.9	10.6	11.2	11.7	10.2	10.9	10.6	11.2	11.7
4H	2H	10.2	11.0	10.6	11.4	11.7	10.2	11.0	10.6	11.4	11.7
	3H	10.5	11.2	10.9	11.6	12.0	10.5	11.2	10.9	11.6	12.0
	4H	10.5	11.1	10.9	11.5	11.9	10.5	11.1	10.9	11.5	11.9
	6H	10.4	10.9	10.9	11.3	11.8	10.4	10.9	10.9	11.3	11.8
	8H	10.3	10.8	10.8	11.2	11.7	10.3	10.8	10.8	11.2	11.7
	12H	10.3	10.7	10.8	11.2	11.6	10.3	10.7	10.8	11.2	11.6
8H	4H	10.3	10.8	10.8	11.3	11.7	10.3	10.8	10.8	11.3	11.7
	6H	10.2	10.6	10.8	11.1	11.6	10.2	10.6	10.8	11.1	11.6
	8H	10.2	10.5	10.7	11.0	11.5	10.2	10.5	10.7	11.0	11.5
	12H	10.1	10.4	10.6	10.9	11.5	10.1	10.4	10.6	10.9	11.5
12H	4H	10.3	10.7	10.8	11.2	11.6	10.3	10.7	10.8	11.2	11.6
	6H	10.2	10.5	10.7	11.0	11.5	10.2	10.5	10.7	11.0	11.5
	8H	10.1	10.4	10.6	10.9	11.5	10.1	10.4	10.6	10.9	11.5

Maximum UGR = 12.0

POLAR GRAPH



Maximum Candela = 1242.268 Located At Horizontal Angle = 0, Vertical Angle = 11.5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (11.5) (Through Max. Cd.)