



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L30-935-DIM-UNV-SW-OF-WH\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM 12316380.07  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] 05/07/2024  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] 4DR-TL-L30-935-DIM-UNV-SW-OF-WH  
 [LUMINAIRE] Black formed aluminum housing, white reflector, clear patterned glass lens enclosure  
 [MORE] One white LED  
 [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	1409
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	51
Total Luminaire Watts	27.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.00
Spacing Criterion (90-270)	1.00
Spacing Criterion (Diagonal)	0.90
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	38873	38873	38873
55	31942	31942	31942
65	23368	23368	23368
75	16177	16177	16177
85	8819	8819	8819

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CANDELA TABULATION

	<u>0</u>
0.0	989.530
0.5	989.217
1.0	988.592
1.5	987.758
2.0	986.925
2.5	985.987
3.0	984.736
3.5	984.006
4.0	983.485
4.5	983.173
5.0	982.756
5.5	982.339
6.0	982.026
6.5	981.610
7.0	981.297
7.5	981.088
8.0	980.984
8.5	980.672
9.0	980.359
9.5	979.734
10.0	979.317
10.5	978.587
11.0	977.858
11.5	976.920
12.0	975.878
12.5	974.627
13.0	973.168
13.5	971.501
14.0	969.416
14.5	966.915
15.0	963.893
15.5	960.245
16.0	956.181
16.5	951.387
17.0	946.176
17.5	940.340
18.0	933.462
18.5	926.375
19.0	918.663
19.5	910.013
20.0	900.530
20.5	890.212
21.0	879.061
21.5	867.076
22.0	853.841
22.5	839.772
23.0	824.660
23.5	808.403
24.0	790.894
24.5	772.240
25.0	752.022
25.5	730.866
26.0	708.251
26.5	684.282

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	659.478
<b>27.5</b>	633.633
<b>28.0</b>	607.370
<b>28.5</b>	581.004
<b>29.0</b>	555.158
<b>29.5</b>	529.834
<b>30.0</b>	505.447
<b>30.5</b>	482.520
<b>31.0</b>	461.051
<b>31.5</b>	441.459
<b>32.0</b>	423.638
<b>32.5</b>	407.588
<b>33.0</b>	393.311
<b>33.5</b>	380.596
<b>34.0</b>	369.237
<b>34.5</b>	359.232
<b>35.0</b>	350.165
<b>35.5</b>	341.932
<b>36.0</b>	334.637
<b>36.5</b>	327.759
<b>37.0</b>	321.506
<b>37.5</b>	315.670
<b>38.0</b>	310.251
<b>38.5</b>	305.040
<b>39.0</b>	300.246
<b>39.5</b>	295.556
<b>40.0</b>	291.179
<b>40.5</b>	286.802
<b>41.0</b>	282.634
<b>41.5</b>	278.569
<b>42.0</b>	274.713
<b>42.5</b>	270.857
<b>43.0</b>	267.001
<b>43.5</b>	263.145
<b>44.0</b>	259.289
<b>44.5</b>	255.433
<b>45.0</b>	251.577
<b>45.5</b>	247.721
<b>46.0</b>	243.865
<b>46.5</b>	240.009
<b>47.0</b>	235.945
<b>47.5</b>	231.880
<b>48.0</b>	227.816
<b>48.5</b>	223.647
<b>49.0</b>	219.374
<b>49.5</b>	215.102
<b>50.0</b>	210.933
<b>50.5</b>	206.660
<b>51.0</b>	202.387
<b>51.5</b>	198.114
<b>52.0</b>	193.946
<b>52.5</b>	189.777
<b>53.0</b>	185.504
<b>53.5</b>	181.127
<b>54.0</b>	176.646
<b>54.5</b>	172.165

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CANDELA TABULATION - (Cont.)

55.0	167.683
55.5	163.202
56.0	158.825
56.5	154.552
57.0	150.279
57.5	146.006
58.0	141.838
58.5	137.773
59.0	133.709
59.5	129.749
60.0	125.893
60.5	122.037
61.0	118.285
61.5	114.637
62.0	110.990
62.5	107.342
63.0	103.862
63.5	100.402
64.0	97.004
64.5	93.659
65.0	90.386
65.5	87.197
66.0	84.050
66.5	80.986
67.0	77.995
67.5	75.056
68.0	72.211
68.5	69.429
69.0	66.646
69.5	63.957
70.0	61.341
70.5	58.767
71.0	56.256
71.5	53.807
72.0	51.441
72.5	49.107
73.0	46.835
73.5	44.625
74.0	42.458
74.5	40.363
75.0	38.320
75.5	36.340
76.0	34.402
76.5	32.515
77.0	30.712
77.5	28.920
78.0	27.190
78.5	25.512
79.0	23.865
79.5	22.281
80.0	20.729
80.5	19.217
81.0	17.727
81.5	16.279
82.0	14.861
82.5	13.486

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CANDELA TABULATION - (Cont.)

83.0	12.120
83.5	10.797
84.0	9.504
84.5	8.243
85.0	7.035
85.5	5.867
86.0	4.752
86.5	3.700
87.0	2.772
87.5	2.001
88.0	1.396
88.5	0.886
89.0	0.552
89.5	0.375
90.0	0.261
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

IES INDOOR REPORT  
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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
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130.0	0.000
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132.0	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
146.0	0.000
146.5	0.000
147.0	0.000
147.5	0.000
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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
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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	363.47	N.A.	25.80
0-30	697.18	N.A.	49.50
0-40	924.49	N.A.	65.60
0-60	1268.11	N.A.	90.00
0-80	1399.82	N.A.	99.40
0-90	1408.63	N.A.	100.00
10-90	1314.91	N.A.	93.30
20-40	561.02	N.A.	39.80
20-50	754.77	N.A.	53.60
40-70	433.99	N.A.	30.80
60-80	131.72	N.A.	9.40
70-80	41.34	N.A.	2.90
80-90	8.81	N.A.	0.60
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	1408.64	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	93.73
10-20	269.75
20-30	333.71
30-40	227.31
40-50	193.75
50-60	149.86
60-70	90.38
70-80	41.34
80-90	8.81
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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89
2	103	97	91	87	101	95	90	86	92	87	84	89	85	82	86	83	80	78
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	72	70
4	90	80	73	67	88	79	72	67	76	70	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	79	67	60	54	77	66	59	54	65	58	54	63	58	53	62	57	53	51
7	74	62	55	50	72	62	54	49	60	54	49	59	53	49	58	52	49	47
8	69	58	51	46	68	57	50	45	56	50	45	55	49	45	54	49	45	43
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37

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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	21.8	23.2	22.2	23.5	23.8	21.8	23.2	22.2	23.5	23.8
	3H	22.9	24.1	23.3	24.5	24.8	22.9	24.1	23.3	24.5	24.8
	4H	23.3	24.4	23.7	24.7	25.1	23.3	24.4	23.7	24.7	25.1
	6H	23.5	24.5	23.9	24.9	25.3	23.5	24.5	23.9	24.9	25.3
	8H	23.5	24.5	24.0	24.9	25.3	23.5	24.5	24.0	24.9	25.3
	12H	23.5	24.5	24.0	24.9	25.3	23.5	24.5	24.0	24.9	25.3

### UGR Viewed Endwise

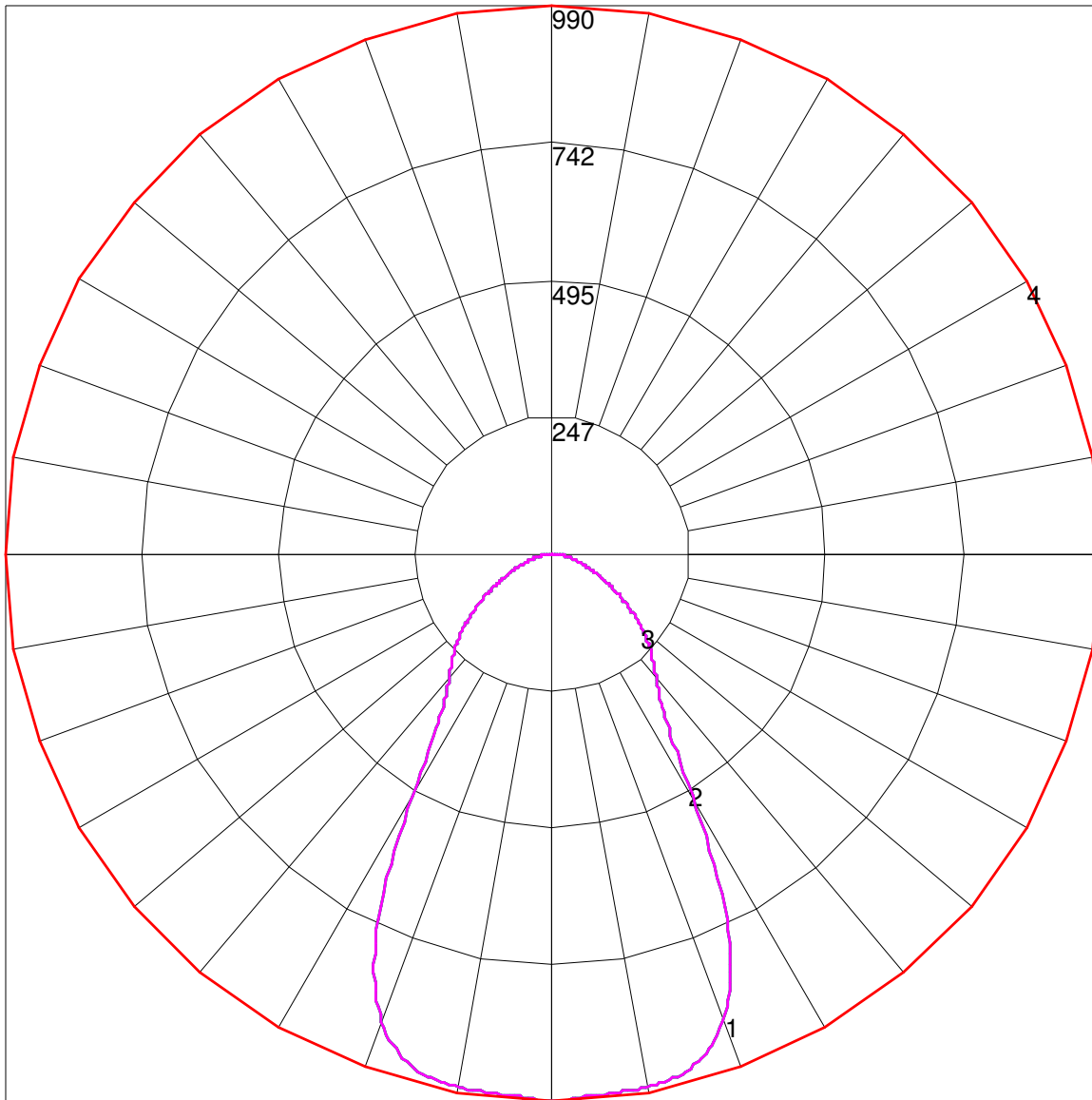
4H	2H	22.2	23.3	22.6	23.7	24.0	22.2	23.3	22.6	23.7	24.0
	3H	23.5	24.4	23.9	24.8	25.2	23.5	24.4	23.9	24.8	25.2
	4H	23.9	24.8	24.3	25.2	25.6	23.9	24.8	24.3	25.2	25.6
	6H	24.2	25.0	24.7	25.4	25.9	24.2	25.0	24.7	25.4	25.9
	8H	24.3	25.0	24.8	25.4	25.9	24.3	25.0	24.8	25.4	25.9
	12H	24.3	24.9	24.8	25.4	25.9	24.3	24.9	24.8	25.4	25.9

8H	4H	24.0	24.7	24.5	25.2	25.6	24.0	24.7	24.5	25.2	25.6
	6H	24.4	25.0	24.9	25.5	26.0	24.4	25.0	24.9	25.5	26.0
	8H	24.5	25.0	25.1	25.6	26.0	24.5	25.0	25.1	25.6	26.0
	12H	24.6	25.0	25.1	25.5	26.1	24.6	25.0	25.1	25.5	26.1

12H	4H	24.0	24.6	24.5	25.1	25.6	24.0	24.6	24.5	25.1	25.6
	6H	24.4	24.9	25.0	25.4	25.9	24.4	24.9	25.0	25.4	25.9
	8H	24.6	25.0	25.1	25.5	26.1	24.6	25.0	25.1	25.5	26.1

Maximum UGR = 26.1

POLAR GRAPH



Maximum Candela = 989.53 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Vertical Plane Through Horizontal Angles (5 - 185)  
# 3 - Vertical Plane Through Horizontal Angles (10 - 190)  
# 4 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)