



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6DR-TL-L20-940-DIM-UNV-LW-OF-CS-AD-WET-CC\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM 12326812.11  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] 12-26-2023  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] 6DR-TL-L20-940-DIM-UNV-LW-OF-CS-AD-WET-CC-N-F1  
 [LUMINAIRE] Black formed aluminum housing, white reflector, frosted pl  
 [MORE] astic lens enclosure  
 [LAMP] One white LED  
 [\_SEARCH\_SOURCETYPE] LED  
 [\_SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Commercial, Healthcare, Office, Downlight  
 [\_SEARCH\_MOUNTING] Recessed

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1115
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	57
Total Luminaire Watts	19.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.94
Spacing Criterion (90-270)	0.94
Spacing Criterion (Diagonal)	1.02
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.46 ft (Diameter)
Luminous Width (90-270)	0.46 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	19933	19933	19933
55	18167	18167	18167
65	18001	18001	18001
75	18797	18797	18797
85	15352	15352	15352

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## CANDELA TABULATION

	<u>0</u>
0.0	627.598
0.5	627.429
1.0	627.009
1.5	626.251
2.0	625.157
2.5	623.811
3.0	622.212
3.5	620.445
4.0	618.425
4.5	616.322
5.0	614.218
5.5	611.862
6.0	609.337
6.5	606.728
7.0	603.867
7.5	600.922
8.0	597.808
8.5	594.526
9.0	591.160
9.5	587.626
10.0	584.008
10.5	580.221
11.0	576.266
11.5	572.058
12.0	567.766
12.5	563.222
13.0	558.594
13.5	553.713
14.0	548.664
14.5	543.531
15.0	538.145
15.5	532.676
16.0	527.122
16.5	521.483
17.0	515.845
17.5	510.123
18.0	504.401
18.5	498.594
19.0	492.872
19.5	487.066
20.0	481.175
20.5	475.369
21.0	469.394
21.5	463.335
22.0	457.192
22.5	450.881
23.0	444.485
23.5	438.006
24.0	431.442
24.5	424.794
25.0	418.146
25.5	411.498
26.0	404.850
26.5	398.286

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6DR-TL-L20-940-DIM-UNV-LW-OF-CS-AD-WET-CC\_.IES****CANDELA TABULATION - (Cont.)**

27.0	391.807
27.5	385.327
28.0	379.016
28.5	372.705
29.0	366.646
29.5	360.587
30.0	354.696
30.5	348.890
31.0	343.083
31.5	337.445
32.0	331.807
32.5	326.253
33.0	320.699
33.5	315.314
34.0	309.844
34.5	304.626
35.0	299.493
35.5	294.360
36.0	289.311
36.5	284.346
37.0	279.549
37.5	274.837
38.0	270.209
38.5	265.665
39.0	261.289
39.5	256.997
40.0	252.789
40.5	248.666
41.0	244.711
41.5	240.840
42.0	237.053
42.5	233.351
43.0	229.732
43.5	226.198
44.0	222.663
44.5	219.297
45.0	215.931
45.5	212.649
46.0	209.452
46.5	206.254
47.0	203.056
47.5	200.027
48.0	196.913
48.5	193.884
49.0	190.939
49.5	188.077
50.0	185.216
50.5	182.439
51.0	179.662
51.5	176.969
52.0	174.277
52.5	171.668
53.0	169.059
53.5	166.703
54.0	164.431
54.5	162.075

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6DR-TL-L20-940-DIM-UNV-LW-OF-CS-AD-WET-CC\_.IES****CANDELA TABULATION - (Cont.)**

55.0	159.634
55.5	157.194
56.0	154.838
56.5	152.566
57.0	150.630
57.5	148.442
58.0	146.170
58.5	143.982
59.0	141.794
59.5	139.606
60.0	137.419
60.5	135.315
61.0	133.211
61.5	131.107
62.0	129.003
62.5	126.900
63.0	124.796
63.5	122.776
64.0	120.672
64.5	118.569
65.0	116.549
65.5	114.445
66.0	112.342
66.5	110.238
67.0	108.134
67.5	106.114
68.0	104.011
68.5	101.991
69.0	99.887
69.5	97.868
70.0	95.764
70.5	93.744
71.0	91.725
71.5	89.621
72.0	87.601
72.5	85.497
73.0	83.385
73.5	81.231
74.0	79.035
74.5	76.796
75.0	74.532
75.5	72.235
76.0	69.887
76.5	67.497
77.0	65.057
77.5	62.575
78.0	60.033
78.5	57.450
79.0	54.841
79.5	52.174
80.0	49.472
80.5	46.737
81.0	43.960
81.5	41.141
82.0	38.280
82.5	35.377

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6DR-TL-L20-940-DIM-UNV-LW-OF-CS-AD-WET-CC\_.IES****CANDELA TABULATION - (Cont.)**

83.0	32.440
83.5	29.486
84.0	26.499
84.5	23.503
85.0	20.499
85.5	17.503
86.0	14.533
86.5	11.697
87.0	9.181
87.5	7.136
88.0	5.360
88.5	3.787
89.0	2.390
89.5	1.338
90.0	0.682
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****PHOTOMETRIC FILENAME : 6DR-TL-L20-940-DIM-UNV-LW-OF-CS-AD-WET-CC\_.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
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
130.0	0.000
130.5	0.000
131.0	0.000
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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6DR-TL-L20-940-DIM-UNV-LW-OF-CS-AD-WET-CC\_.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
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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6DR-TL-L20-940-DIM-UNV-LW-OF-CS-AD-WET-CC\_.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



**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 6DR-TL-L20-940-DIM-UNV-LW-OF-CS-AD-WET-CC\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	208.07	N.A.	18.70
0-30	399.73	N.A.	35.80
0-40	587.41	N.A.	52.70
0-60	897.93	N.A.	80.50
0-80	1091.28	N.A.	97.90
0-90	1114.99	N.A.	100.00
10-90	1057.32	N.A.	94.80
20-40	379.34	N.A.	34.00
20-50	546.59	N.A.	49.00
40-70	425.90	N.A.	38.20
60-80	193.35	N.A.	17.30
70-80	77.97	N.A.	7.00
80-90	23.71	N.A.	2.10
90-110	0.02	N.A.	0.00
90-120	0.02	N.A.	0.00
90-130	0.02	N.A.	0.00
90-150	0.02	N.A.	0.00
90-180	0.02	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1115.01	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	57.67
10-20	150.40
20-30	191.66
30-40	187.68
40-50	167.25
50-60	143.27
60-70	115.39
70-80	77.97
80-90	23.71
90-100	0.02
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	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85
2	100	92	86	80	97	90	84	79	87	82	77	83	79	76	80	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	85	73	65	59	82	72	64	58	70	63	57	67	61	57	65	60	56	54
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	50	48
6	73	60	52	46	71	59	51	46	58	50	45	56	50	45	54	49	44	42
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	45	40	38
8	64	51	43	37	62	50	43	37	49	42	37	48	41	37	47	41	37	35
9	60	47	39	34	59	47	39	34	45	39	34	44	38	34	43	38	33	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

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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	20.7	22.3	21.1	22.6	22.9	20.7	22.3	21.1	22.6	22.9
	3H	22.9	24.3	23.2	24.6	25.0	22.9	24.3	23.2	24.6	25.0
	4H	23.8	25.1	24.2	25.5	25.8	23.8	25.1	24.2	25.5	25.8
	6H	24.5	25.8	24.9	26.1	26.5	24.5	25.8	24.9	26.1	26.5
	8H	24.8	26.0	25.2	26.4	26.8	24.8	26.0	25.2	26.4	26.8
	12H	24.9	26.1	25.4	26.5	26.9	24.9	26.1	25.4	26.5	26.9

### UGR Viewed Endwise

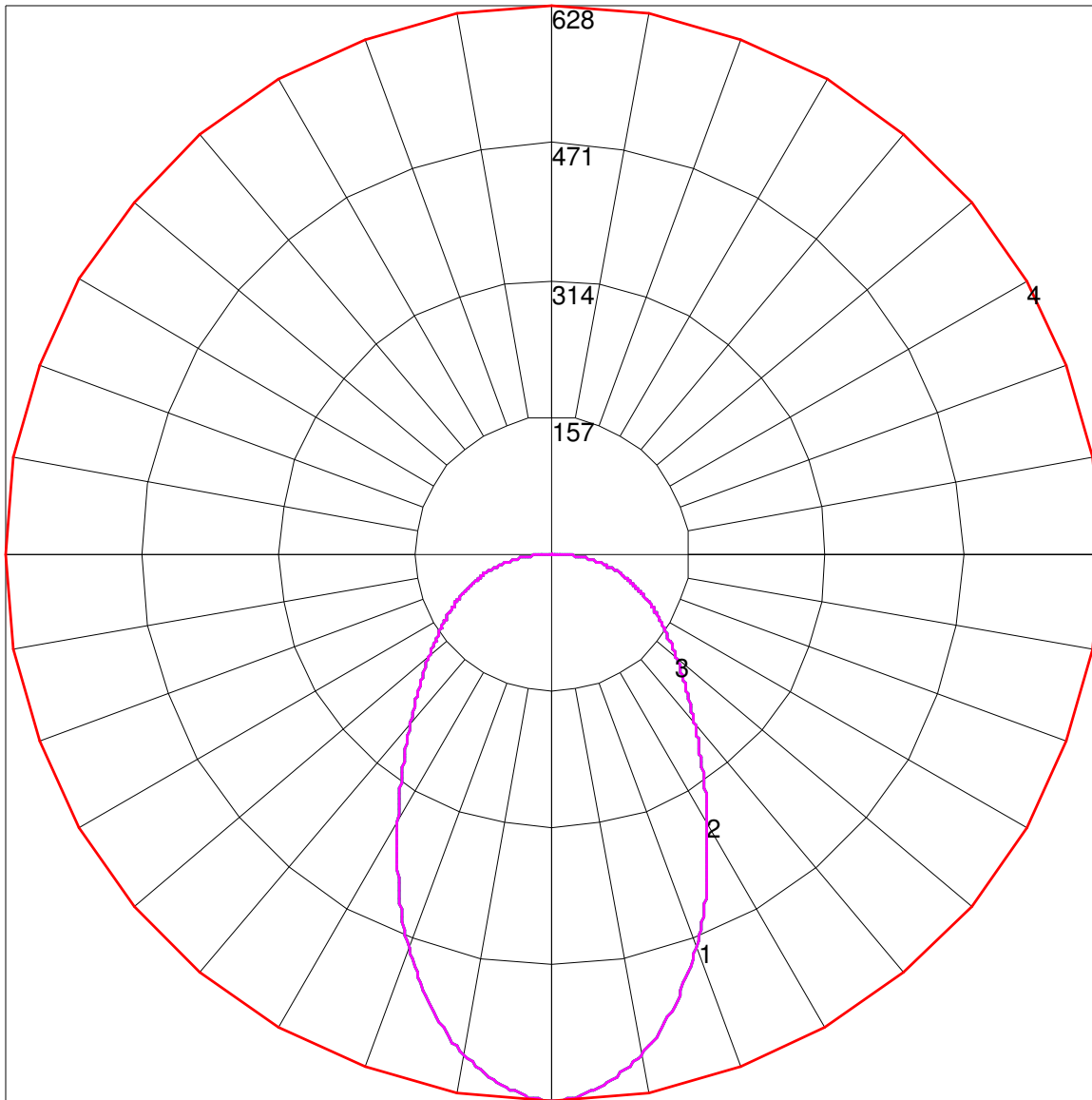
4H	2H	21.4	22.8	21.8	23.1	23.5	21.4	22.8	21.8	23.1	23.5
	3H	23.8	24.9	24.2	25.3	25.7	23.8	24.9	24.2	25.3	25.7
	4H	24.9	25.9	25.3	26.3	26.7	24.9	25.9	25.3	26.3	26.7
	6H	25.8	26.7	26.2	27.1	27.6	25.8	26.7	26.2	27.1	27.6
	8H	26.1	26.9	26.6	27.4	27.8	26.1	26.9	26.6	27.4	27.8
	12H	26.3	27.1	26.8	27.5	28.0	26.3	27.1	26.8	27.5	28.0
8H	4H	25.3	26.1	25.7	26.6	27.0	25.3	26.1	25.7	26.6	27.0
	6H	26.4	27.0	26.9	27.5	28.0	26.4	27.0	26.9	27.5	28.0
	8H	26.8	27.4	27.3	27.9	28.4	26.8	27.4	27.3	27.9	28.4
	12H	27.0	27.6	27.5	28.1	28.7	27.0	27.6	27.5	28.1	28.7
12H	4H	25.3	26.1	25.8	26.6	27.0	25.3	26.1	25.8	26.6	27.0
	6H	26.5	27.1	27.0	27.5	28.1	26.5	27.1	27.0	27.5	28.1
	8H	26.9	27.5	27.4	28.0	28.5	26.9	27.5	27.4	28.0	28.5

Maximum UGR = 28.7

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## POLAR GRAPH



Maximum Candela = 627.598 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.)