



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 6DR-TL-L20-935-DIM-UNV-SW-OF-WH.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12326812.11
 [TESTLAB] UL Verification Services Inc.
 [ISSUE DATE] 05-06-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 6DR-TL-L20-935-DIM-UNV-SW-OF-WH
 [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	1089
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	56
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	19463	19463	19463
55	17738	17738	17738
65	17577	17577	17577
75	18354	18354	18354
85	14991	14991	14991

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CANDELA TABULATION

	<u>0</u>
0.0	612.802
0.5	612.638
1.0	612.227
1.5	611.487
2.0	610.419
2.5	609.105
3.0	607.543
3.5	605.818
4.0	603.846
4.5	601.792
5.0	599.738
5.5	597.437
6.0	594.972
6.5	592.425
7.0	589.631
7.5	586.755
8.0	583.715
8.5	580.510
9.0	577.224
9.5	573.773
10.0	570.240
10.5	566.542
11.0	562.680
11.5	558.572
12.0	554.381
12.5	549.944
13.0	545.425
13.5	540.659
14.0	535.729
14.5	530.717
15.0	525.459
15.5	520.118
16.0	514.695
16.5	509.189
17.0	503.684
17.5	498.097
18.0	492.510
18.5	486.840
19.0	481.253
19.5	475.583
20.0	469.831
20.5	464.162
21.0	458.328
21.5	452.412
22.0	446.414
22.5	440.251
23.0	434.007
23.5	427.680
24.0	421.271
24.5	414.779
25.0	408.288
25.5	401.797
26.0	395.306
26.5	388.897

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CANDELA TABULATION - (Cont.)

27.0	382.570
27.5	376.243
28.0	370.081
28.5	363.918
29.0	358.002
29.5	352.086
30.0	346.334
30.5	340.665
31.0	334.995
31.5	329.490
32.0	323.985
32.5	318.562
33.0	313.139
33.5	307.880
34.0	302.539
34.5	297.445
35.0	292.433
35.5	287.420
36.0	282.490
36.5	277.643
37.0	272.959
37.5	268.358
38.0	263.839
38.5	259.401
39.0	255.129
39.5	250.938
40.0	246.830
40.5	242.804
41.0	238.942
41.5	235.162
42.0	231.465
42.5	227.849
43.0	224.316
43.5	220.865
44.0	217.414
44.5	214.127
45.0	210.841
45.5	207.636
46.0	204.514
46.5	201.392
47.0	198.269
47.5	195.311
48.0	192.271
48.5	189.313
49.0	186.437
49.5	183.643
50.0	180.850
50.5	178.138
51.0	175.427
51.5	172.797
52.0	170.168
52.5	167.621
53.0	165.074
53.5	162.773
54.0	160.554
54.5	158.254

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CANDELA TABULATION - (Cont.)

55.0	155.871
55.5	153.488
56.0	151.187
56.5	148.969
57.0	147.079
57.5	144.943
58.0	142.724
58.5	140.588
59.0	138.452
59.5	136.315
60.0	134.179
60.5	132.125
61.0	130.071
61.5	128.016
62.0	125.962
62.5	123.908
63.0	121.854
63.5	119.882
64.0	117.828
64.5	115.773
65.0	113.801
65.5	111.747
66.0	109.693
66.5	107.639
67.0	105.585
67.5	103.613
68.0	101.559
68.5	99.587
69.0	97.532
69.5	95.560
70.0	93.506
70.5	91.534
71.0	89.562
71.5	87.508
72.0	85.536
72.5	83.482
73.0	81.419
73.5	79.316
74.0	77.171
74.5	74.986
75.0	72.775
75.5	70.532
76.0	68.240
76.5	65.906
77.0	63.523
77.5	61.099
78.0	58.618
78.5	56.095
79.0	53.548
79.5	50.944
80.0	48.306
80.5	45.636
81.0	42.924
81.5	40.171
82.0	37.378
82.5	34.543

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CANDELA TABULATION - (Cont.)

83.0	31.675
83.5	28.791
84.0	25.874
84.5	22.949
85.0	20.016
85.5	17.091
86.0	14.190
86.5	11.421
87.0	8.964
87.5	6.968
88.0	5.234
88.5	3.698
89.0	2.334
89.5	1.306
90.0	0.666
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
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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
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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
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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	203.16	N.A.	18.70
0-30	390.31	N.A.	35.90
0-40	573.57	N.A.	52.70
0-60	876.76	N.A.	80.50
0-80	1065.56	N.A.	97.90
0-90	1088.71	N.A.	100.00
10-90	1032.4	N.A.	94.80
20-40	370.40	N.A.	34.00
20-50	533.71	N.A.	49.00
40-70	415.86	N.A.	38.20
60-80	188.79	N.A.	17.30
70-80	76.13	N.A.	7.00
80-90	23.15	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	1088.72	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	56.31
10-20	146.86
20-30	187.14
30-40	183.26
40-50	163.31
50-60	139.89
60-70	112.67
70-80	76.13
80-90	23.15
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	44	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	22.2	21.0	22.5	22.8	20.7	22.2	21.0	22.5	22.8
	3H	22.8	24.2	23.2	24.5	24.9	22.8	24.2	23.2	24.5	24.9
	4H	23.7	25.0	24.1	25.4	25.7	23.7	25.0	24.1	25.4	25.7
	6H	24.4	25.7	24.8	26.0	26.4	24.4	25.7	24.8	26.0	26.4
	8H	24.7	25.9	25.1	26.3	26.7	24.7	25.9	25.1	26.3	26.7
	12H	24.9	26.0	25.3	26.4	26.8	24.9	26.0	25.3	26.4	26.8

UGR Viewed Endwise

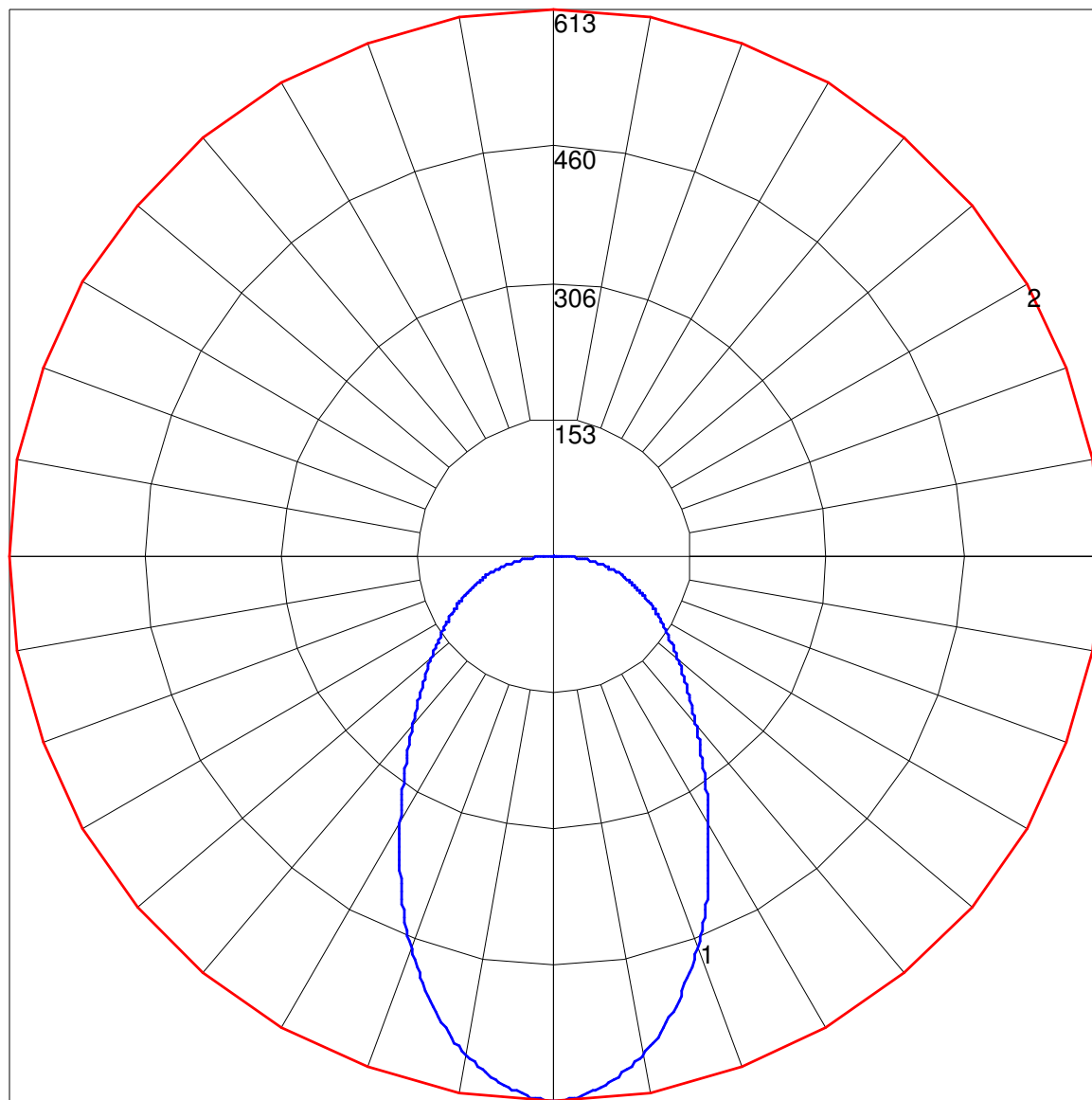
4H	2H	21.4	22.7	21.7	23.0	23.4	21.4	22.7	21.7	23.0	23.4
	3H	23.7	24.8	24.1	25.2	25.6	23.7	24.8	24.1	25.2	25.6
	4H	24.8	25.8	25.2	26.2	26.6	24.8	25.8	25.2	26.2	26.6
	6H	25.7	26.6	26.1	27.0	27.5	25.7	26.6	26.1	27.0	27.5
	8H	26.0	26.8	26.5	27.3	27.7	26.0	26.8	26.5	27.3	27.7
	12H	26.2	27.0	26.7	27.4	27.9	26.2	27.0	26.7	27.4	27.9

8H	4H	25.2	26.0	25.7	26.5	26.9	25.2	26.0	25.7	26.5	26.9
	6H	26.3	26.9	26.8	27.4	27.9	26.3	26.9	26.8	27.4	27.9
	8H	26.7	27.3	27.2	27.8	28.3	26.7	27.3	27.2	27.8	28.3
	12H	27.0	27.5	27.5	28.0	28.6	27.0	27.5	27.5	28.0	28.6

12H	4H	25.3	26.0	25.7	26.5	26.9	25.3	26.0	25.7	26.5	26.9
	6H	26.4	27.0	26.9	27.4	28.0	26.4	27.0	26.9	27.4	28.0
	8H	26.8	27.4	27.3	27.9	28.4	26.8	27.4	27.3	27.9	28.4

Maximum UGR = 28.6

POLAR GRAPH



Maximum Candela = 612.802 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.)