



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DR-TL-L10-840-DIM-UNV-LW-OF-CS-PD_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12316380.07
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] 01-20-2022
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] 4DR-TL-L10-840-DIM1-UNV-LW-OF-CS-PD
 [LUMINAIRE] Black formed aluminum housing, specular reflector, clear patterned glass lens enclosure
 [MORE] erned glass lens enclosure
 [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	578
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	64
Total Luminaire Watts	9
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	15964	15964	15964
55	13118	13118	13118
65	9597	9597	9597
75	6643	6643	6643
85	3622	3622	3622

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CANDELA TABULATION

	<u>0</u>
0.0	406.367
0.5	406.239
1.0	405.982
1.5	405.639
2.0	405.297
2.5	404.912
3.0	404.398
3.5	404.099
4.0	403.885
4.5	403.756
5.0	403.585
5.5	403.414
6.0	403.286
6.5	403.114
7.0	402.986
7.5	402.900
8.0	402.858
8.5	402.729
9.0	402.601
9.5	402.344
10.0	402.173
10.5	401.873
11.0	401.574
11.5	401.188
12.0	400.760
12.5	400.247
13.0	399.648
13.5	398.963
14.0	398.107
14.5	397.080
15.0	395.839
15.5	394.341
16.0	392.672
16.5	390.703
17.0	388.563
17.5	386.166
18.0	383.342
18.5	380.431
19.0	377.264
19.5	373.712
20.0	369.818
20.5	365.581
21.0	361.001
21.5	356.079
22.0	350.644
22.5	344.866
23.0	338.661
23.5	331.984
24.0	324.794
24.5	317.133
25.0	308.830
25.5	300.142
26.0	290.855
26.5	281.012

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CANDELA TABULATION - (Cont.)

27.0	270.826
27.5	260.212
28.0	249.427
28.5	238.599
29.0	227.985
29.5	217.585
30.0	207.570
30.5	198.155
31.0	189.338
31.5	181.292
32.0	173.974
32.5	167.383
33.0	161.520
33.5	156.298
34.0	151.633
34.5	147.525
35.0	143.801
35.5	140.420
36.0	137.424
36.5	134.600
37.0	132.032
37.5	129.635
38.0	127.410
38.5	125.270
39.0	123.301
39.5	121.375
40.0	119.578
40.5	117.780
41.0	116.068
41.5	114.399
42.0	112.816
42.5	111.232
43.0	109.648
43.5	108.065
44.0	106.481
44.5	104.898
45.0	103.314
45.5	101.731
46.0	100.147
46.5	98.564
47.0	96.895
47.5	95.226
48.0	93.556
48.5	91.845
49.0	90.090
49.5	88.335
50.0	86.623
50.5	84.868
51.0	83.114
51.5	81.359
52.0	79.647
52.5	77.935
53.0	76.180
53.5	74.383
54.0	72.543
54.5	70.702

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CANDELA TABULATION - (Cont.)

55.0	68.862
55.5	67.022
56.0	65.224
56.5	63.469
57.0	61.715
57.5	59.960
58.0	58.248
58.5	56.579
59.0	54.910
59.5	53.284
60.0	51.700
60.5	50.116
61.0	48.576
61.5	47.078
62.0	45.580
62.5	44.082
63.0	42.652
63.5	41.232
64.0	39.836
64.5	38.463
65.0	37.119
65.5	35.809
66.0	34.517
66.5	33.258
67.0	32.030
67.5	30.823
68.0	29.655
68.5	28.512
69.0	27.369
69.5	26.265
70.0	25.191
70.5	24.134
71.0	23.102
71.5	22.097
72.0	21.125
72.5	20.166
73.0	19.233
73.5	18.326
74.0	17.436
74.5	16.576
75.0	15.737
75.5	14.924
76.0	14.128
76.5	13.353
77.0	12.613
77.5	11.876
78.0	11.166
78.5	10.477
79.0	9.801
79.5	9.150
80.0	8.513
80.5	7.892
81.0	7.280
81.5	6.685
82.0	6.103
82.5	5.538

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CANDELA TABULATION - (Cont.)

83.0	4.977
83.5	4.434
84.0	3.903
84.5	3.385
85.0	2.889
85.5	2.410
86.0	1.952
86.5	1.519
87.0	1.138
87.5	0.822
88.0	0.573
88.5	0.364
89.0	0.227
89.5	0.154
90.0	0.107
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
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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
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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
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159.0	0.000
159.5	0.000
160.0	0.000
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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	149.27	N.A.	25.80
0-30	286.31	N.A.	49.50
0-40	379.66	N.A.	65.60
0-60	520.77	N.A.	90.00
0-80	574.86	N.A.	99.40
0-90	578.48	N.A.	100.00
10-90	539.99	N.A.	93.30
20-40	230.39	N.A.	39.80
20-50	309.96	N.A.	53.60
40-70	178.22	N.A.	30.80
60-80	54.09	N.A.	9.40
70-80	16.98	N.A.	2.90
80-90	3.62	N.A.	0.60
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	578.48	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	38.49
10-20	110.78
20-30	137.04
30-40	93.35
40-50	79.57
50-60	61.54
60-70	37.11
70-80	16.98
80-90	3.62
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	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89
2	104	97	92	87	101	95	90	86	92	88	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	71	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	59	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	70	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	48	42	39	37

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UGR TABLE - CORRECTED

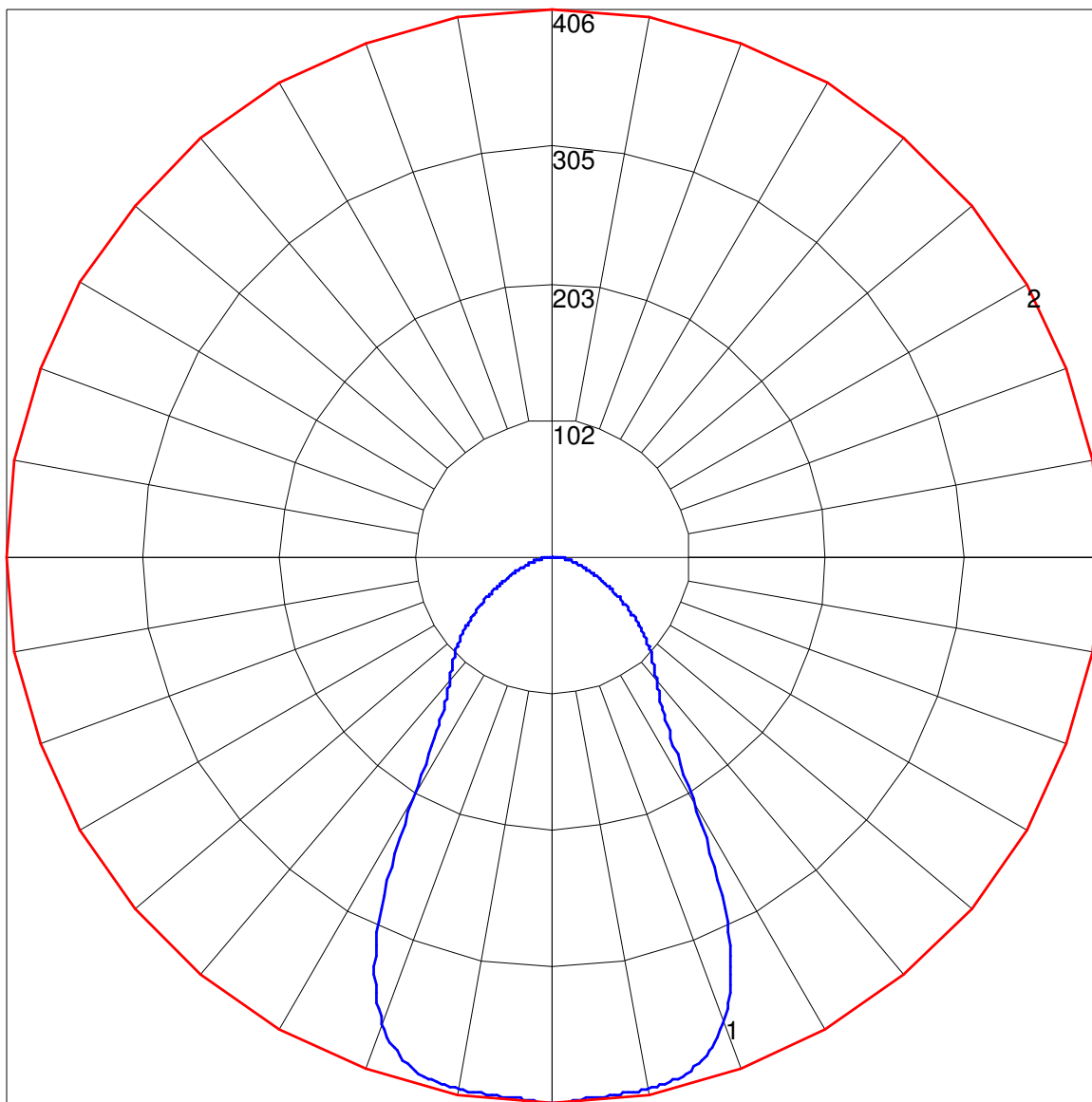
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	18.7	20.1	19.1	20.4	20.7	18.7	20.1	19.1	20.4	20.7
	3H	19.8	21.0	20.2	21.4	21.7	19.8	21.0	20.2	21.4	21.7
	4H	20.2	21.3	20.6	21.7	22.0	20.2	21.3	20.6	21.7	22.0
	6H	20.4	21.4	20.8	21.8	22.2	20.4	21.4	20.8	21.8	22.2
	8H	20.4	21.4	20.9	21.8	22.2	20.4	21.4	20.9	21.8	22.2
	12H	20.4	21.4	20.9	21.8	22.2	20.4	21.4	20.9	21.8	22.2
4H	2H	19.1	20.2	19.5	20.6	20.9	19.1	20.2	19.5	20.6	20.9
	3H	20.4	21.3	20.8	21.7	22.1	20.4	21.3	20.8	21.7	22.1
	4H	20.8	21.7	21.2	22.1	22.5	20.8	21.7	21.2	22.1	22.5
	6H	21.1	21.9	21.6	22.3	22.8	21.1	21.9	21.6	22.3	22.8
	8H	21.2	21.9	21.7	22.3	22.8	21.2	21.9	21.7	22.3	22.8
	12H	21.2	21.8	21.7	22.3	22.8	21.2	21.8	21.7	22.3	22.8
8H	4H	20.9	21.6	21.4	22.1	22.5	20.9	21.6	21.4	22.1	22.5
	6H	21.3	21.9	21.8	22.4	22.9	21.3	21.9	21.8	22.4	22.9
	8H	21.4	21.9	22.0	22.5	22.9	21.4	21.9	22.0	22.5	22.9
	12H	21.5	21.9	22.0	22.4	23.0	21.5	21.9	22.0	22.4	23.0
12H	4H	20.9	21.5	21.4	22.0	22.5	20.9	21.5	21.4	22.0	22.5
	6H	21.3	21.8	21.9	22.3	22.8	21.3	21.8	21.9	22.3	22.8
	8H	21.5	21.9	22.0	22.4	23.0	21.5	21.9	22.0	22.4	23.0

Maximum UGR = 23.0

POLAR GRAPH



Maximum Candela = 406.367 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.)