



IES INDOOR REPORT

PHOTOMETRIC FILENAME : HS4DR-TL-L40-835-DIM-UNV-RW-OF-WH_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12316380.12
 [TESTLAB] UL Verification Services Inc.
 [ISSUE DATE] AUGUST 2022
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] HS4DR-TL-L40-835-DIM-UNV-RW-OF-WH
 [LUMINAIRE] Black formed aluminum housing, white reflector, clear glass
 [MORE] s patterned 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	3811
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	69
Total Luminaire Watts	55.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.98
Spacing Criterion (90-270)	0.98
Spacing Criterion (Diagonal)	0.88
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.38 ft (Diameter)
Luminous Width (90-270)	0.38 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	88152	88152	88152
55	71178	71178	71178
65	46045	46045	46045
75	25676	25676	25676
85	13190	13190	13190

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CANDELA TABULATION

	<u>0</u>
0.0	3061.248
0.5	3061.248
1.0	3058.368
1.5	3052.608
2.0	3046.848
2.5	3041.089
3.0	3032.449
3.5	3023.810
4.0	3015.170
4.5	3003.651
5.0	2995.012
5.5	2983.492
6.0	2971.973
6.5	2960.454
7.0	2948.935
7.5	2937.415
8.0	2925.896
8.5	2911.497
9.0	2899.978
9.5	2888.458
10.0	2877.515
10.5	2865.708
11.0	2853.613
11.5	2841.805
12.0	2830.574
12.5	2819.343
13.0	2808.111
13.5	2796.592
14.0	2785.073
14.5	2773.554
15.0	2761.746
15.5	2749.651
16.0	2736.980
16.5	2724.309
17.0	2711.350
17.5	2697.526
18.0	2682.839
18.5	2667.000
19.0	2651.737
19.5	2635.322
20.0	2617.467
20.5	2597.021
21.0	2573.406
21.5	2547.776
22.0	2518.402
22.5	2485.860
23.0	2448.998
23.5	2407.529
24.0	2362.027
24.5	2310.479
25.0	2252.882
25.5	2189.238
26.0	2120.411
26.5	2047.263

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CANDELA TABULATION - (Cont.)

27.0	1970.372
27.5	1892.329
28.0	1810.542
28.5	1729.619
29.0	1648.984
29.5	1568.349
30.0	1489.154
30.5	1411.399
31.0	1337.964
31.5	1266.832
32.0	1199.733
32.5	1137.240
33.0	1079.356
33.5	1027.231
34.0	980.290
34.5	939.397
35.0	903.399
35.5	872.873
36.0	846.091
36.5	823.628
37.0	803.757
37.5	786.767
38.0	771.216
38.5	757.392
39.0	745.009
39.5	733.778
40.0	723.698
40.5	714.195
41.0	704.980
41.5	696.628
42.0	688.277
42.5	680.501
43.0	672.726
43.5	664.662
44.0	656.599
44.5	648.535
45.0	640.184
45.5	631.544
46.0	622.617
46.5	613.401
47.0	603.898
47.5	594.107
48.0	584.315
48.5	573.948
49.0	563.293
49.5	552.061
50.0	540.830
50.5	529.311
51.0	517.215
51.5	505.408
52.0	493.313
52.5	481.218
53.0	469.698
53.5	457.027
54.0	444.356
54.5	431.685

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CANDELA TABULATION - (Cont.)

55.0	419.302
55.5	406.630
56.0	394.247
56.5	382.152
57.0	370.057
57.5	357.961
58.0	346.154
58.5	334.635
59.0	323.116
59.5	311.884
60.0	300.653
60.5	289.710
61.0	279.054
61.5	268.399
62.0	258.320
62.5	247.952
63.0	238.161
63.5	228.082
64.0	218.578
64.5	209.075
65.0	199.859
65.5	190.644
66.0	181.717
66.5	173.077
67.0	164.726
67.5	156.374
68.0	148.311
68.5	140.247
69.0	132.472
69.5	124.984
70.0	118.073
70.5	111.449
71.0	105.401
71.5	99.642
72.0	94.170
72.5	88.986
73.0	84.091
73.5	79.771
74.0	75.451
74.5	71.707
75.0	68.252
75.5	65.084
76.0	61.628
76.5	58.460
77.0	55.293
77.5	52.125
78.0	49.245
78.5	46.077
79.0	43.197
79.5	40.317
80.0	37.438
80.5	34.558
81.0	31.966
81.5	29.374
82.0	26.494
82.5	24.190

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CANDELA TABULATION - (Cont.)

83.0	21.599
83.5	19.007
84.0	16.703
84.5	14.111
85.0	11.807
85.5	9.791
86.0	7.776
86.5	6.336
87.0	4.896
87.5	3.744
88.0	2.592
88.5	1.728
89.0	0.864
89.5	0.288
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
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100.0	0.000
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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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116.5	0.000
117.0	0.000
117.5	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
144.5	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
154.5	0.000
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156.5	0.000
157.0	0.000
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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	1059.6	N.A.	27.80
0-30	2050.47	N.A.	53.80
0-40	2654.29	N.A.	69.60
0-60	3519.99	N.A.	92.40
0-80	3795.43	N.A.	99.60
0-90	3811.00	N.A.	100.00
10-90	3529.06	N.A.	92.60
20-40	1594.68	N.A.	41.80
20-50	2085.97	N.A.	54.70
40-70	1065.92	N.A.	28.00
60-80	275.44	N.A.	7.20
70-80	75.22	N.A.	2.00
80-90	15.58	N.A.	0.40
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	3811.00	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	281.95
10-20	777.66
20-30	990.86
30-40	603.82
40-50	491.28
50-60	374.41
60-70	200.22
70-80	75.22
80-90	15.58
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	112	108	105	102	109	106	103	101	102	100	97	98	96	95	95	93	92	90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80
3	97	89	83	78	95	88	82	77	85	80	76	83	78	75	80	77	74	72
4	91	82	75	70	89	80	74	69	78	73	68	76	71	67	74	70	67	65
5	85	75	68	63	84	74	67	62	72	66	62	70	65	61	69	64	61	59
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	55	54
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49
8	71	60	53	48	70	59	53	48	58	52	48	57	51	47	56	51	47	46
9	67	56	49	44	66	56	49	44	54	48	44	54	48	44	53	48	44	42
10	64	53	46	41	63	52	46	41	51	45	41	50	45	41	50	45	41	39

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UGR TABLE - CORRECTED

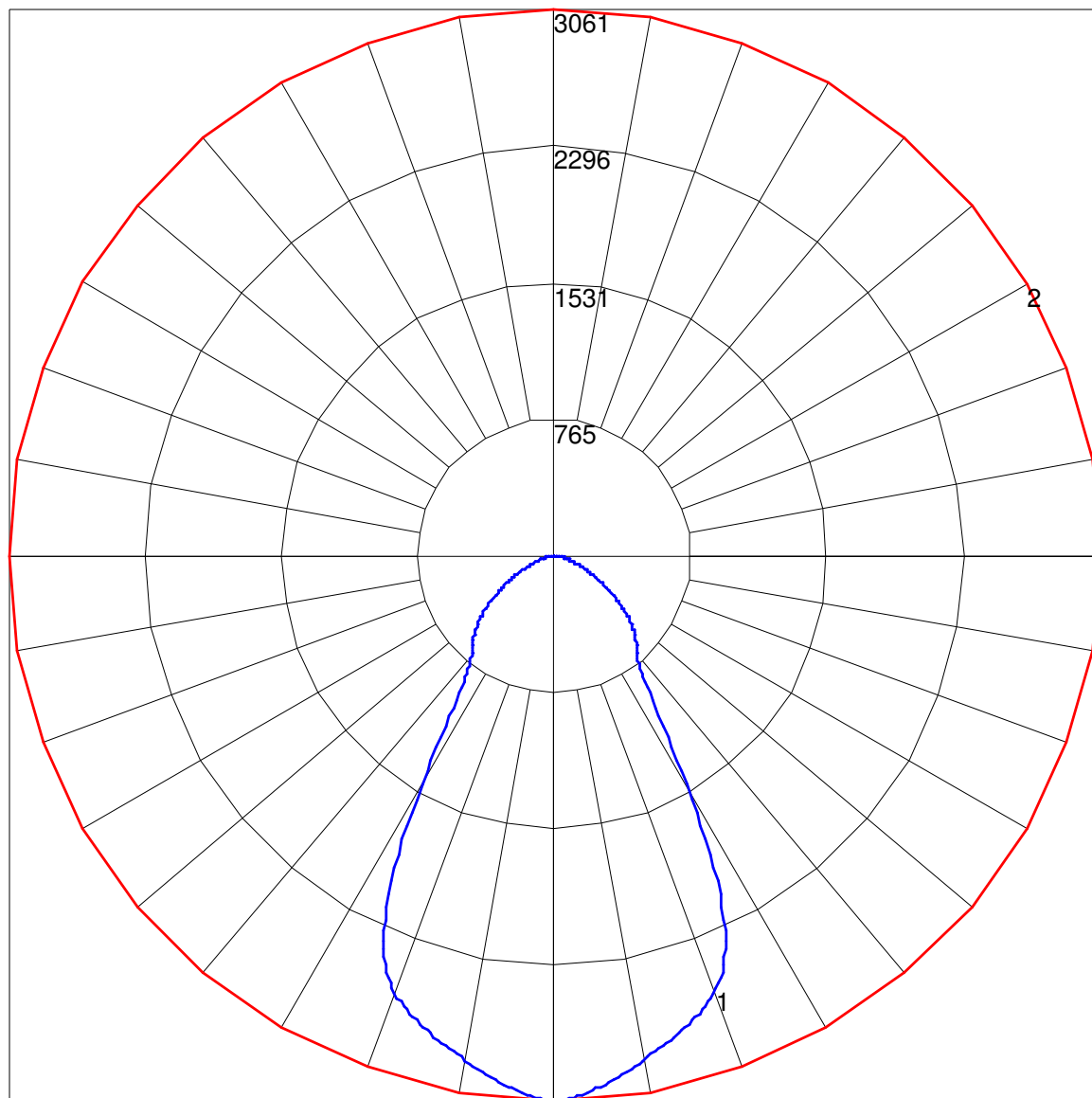
Reflectances

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	24.3	25.6	24.7	25.9	26.2	24.3	25.6	24.7	25.9	26.2
	3H	25.1	26.2	25.4	26.6	26.9	25.1	26.2	25.4	26.6	26.9
	4H	25.2	26.3	25.6	26.7	27.0	25.2	26.3	25.6	26.7	27.0
	6H	25.4	26.3	25.8	26.7	27.1	25.4	26.3	25.8	26.7	27.1
	8H	25.4	26.3	25.8	26.7	27.1	25.4	26.3	25.8	26.7	27.1
	12H	25.3	26.2	25.8	26.6	27.1	25.3	26.2	25.8	26.6	27.1
4H	2H	24.6	25.7	25.0	26.0	26.4	24.6	25.7	25.0	26.0	26.4
	3H	25.5	26.4	25.9	26.8	27.2	25.5	26.4	25.9	26.8	27.2
	4H	25.7	26.5	26.1	26.9	27.4	25.7	26.5	26.1	26.9	27.4
	6H	25.9	26.6	26.4	27.0	27.5	25.9	26.6	26.4	27.0	27.5
	8H	25.9	26.5	26.4	27.0	27.5	25.9	26.5	26.4	27.0	27.5
	12H	25.9	26.5	26.4	27.0	27.4	25.9	26.5	26.4	27.0	27.4
8H	4H	25.8	26.4	26.2	26.8	27.3	25.8	26.4	26.2	26.8	27.3
	6H	26.0	26.5	26.5	27.0	27.5	26.0	26.5	26.5	27.0	27.5
	8H	26.0	26.5	26.6	27.0	27.5	26.0	26.5	26.6	27.0	27.5
	12H	26.1	26.5	26.6	27.0	27.5	26.1	26.5	26.6	27.0	27.5
12H	4H	25.7	26.3	26.2	26.8	27.2	25.7	26.3	26.2	26.8	27.2
	6H	26.0	26.4	26.5	26.9	27.4	26.0	26.4	26.5	26.9	27.4
	8H	26.0	26.5	26.6	26.9	27.5	26.0	26.5	26.6	26.9	27.5

Maximum UGR = 27.5

POLAR GRAPH



Maximum Candela = 3061.248 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.)