



IES INDOOR REPORT

PHOTOMETRIC FILENAME : HS4DR-TL-L40-835-DIM-UNV-LW-OF-WH-AD_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12316380.11
 [TESTLAB] UL Verification Services Inc.
 [ISSUEDATE] AUGUST 2022
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT] HS4DR-TL-L40-835-DIM-UNV-LW-OF-WH-AD
 [LUMINAIRE] Black formed aluminum housing, white reflector, frosted pl
 [MORE] astic 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	2994
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	54
Total Luminaire Watts	55.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.28
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	108110	108110	108110
55	92277	92277	92277
65	78709	78709	78709
75	65086	65086	65086
85	40278	40278	40278

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CANDELA TABULATION

	<u>0</u>
0.0	1260.462
0.5	1260.237
1.0	1259.563
1.5	1258.889
2.0	1257.541
2.5	1256.193
3.0	1254.395
3.5	1252.598
4.0	1250.800
4.5	1249.003
5.0	1247.430
5.5	1245.633
6.0	1243.835
6.5	1242.038
7.0	1240.016
7.5	1237.769
8.0	1235.522
8.5	1233.275
9.0	1230.804
9.5	1228.332
10.0	1225.636
10.5	1222.940
11.0	1220.019
11.5	1216.873
12.0	1213.728
12.5	1210.358
13.0	1206.763
13.5	1202.943
14.0	1198.899
14.5	1194.630
15.0	1190.136
15.5	1185.643
16.0	1180.924
16.5	1176.431
17.0	1171.488
17.5	1166.545
18.0	1161.602
18.5	1156.659
19.0	1151.716
19.5	1146.773
20.0	1141.830
20.5	1136.887
21.0	1131.719
21.5	1126.327
22.0	1120.710
22.5	1114.419
23.0	1108.128
23.5	1101.163
24.0	1094.197
24.5	1086.783
25.0	1079.144
25.5	1071.505
26.0	1063.416
26.5	1055.328

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27.0	1047.014
27.5	1038.477
28.0	1029.939
28.5	1021.625
29.0	1013.312
29.5	1004.774
30.0	996.461
30.5	987.699
31.0	978.711
31.5	969.949
32.0	960.962
32.5	951.974
33.0	942.762
33.5	933.326
34.0	924.114
34.5	914.677
35.0	905.241
35.5	895.579
36.0	885.918
36.5	876.032
37.0	866.146
37.5	856.260
38.0	846.149
38.5	835.814
39.0	825.928
39.5	815.593
40.0	805.257
40.5	795.147
41.0	784.587
41.5	774.476
42.0	763.916
42.5	753.581
43.0	743.021
43.5	732.236
44.0	721.451
44.5	710.667
45.0	699.657
45.5	688.873
46.0	677.863
46.5	666.854
47.0	655.844
47.5	644.610
48.0	633.601
48.5	622.367
49.0	611.358
49.5	600.348
50.0	589.339
50.5	578.554
51.0	567.769
51.5	556.985
52.0	546.425
52.5	535.865
53.0	525.529
53.5	515.194
54.0	504.859
54.5	494.748

IES INDOOR REPORT**PHOTOMETRIC FILENAME : HS4DR-TL-L40-835-DIM-UNV-LW-OF-WH-AD_.IES****CANDELA TABULATION - (Cont.)**

55.0	484.413
55.5	474.302
56.0	465.090
56.5	455.204
57.0	445.768
57.5	436.331
58.0	426.894
58.5	417.458
59.0	408.470
59.5	399.483
60.0	390.496
60.5	381.958
61.0	373.195
61.5	364.208
62.0	355.446
62.5	346.683
63.0	338.145
63.5	329.607
64.0	321.069
64.5	312.756
65.0	304.443
65.5	296.130
66.0	287.817
66.5	279.728
67.0	271.864
67.5	264.000
68.0	256.137
68.5	248.497
69.0	240.858
69.5	233.219
70.0	225.580
70.5	218.165
71.0	210.796
71.5	203.471
72.0	196.237
72.5	189.114
73.0	182.014
73.5	174.982
74.0	168.017
74.5	161.051
75.0	154.176
75.5	147.391
76.0	140.606
76.5	133.888
77.0	127.259
77.5	120.654
78.0	114.138
78.5	107.735
79.0	101.376
79.5	95.085
80.0	88.951
80.5	82.907
81.0	76.931
81.5	70.999
82.0	65.180
82.5	59.451

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83.0	53.789
83.5	48.194
84.0	42.734
84.5	37.364
85.0	32.129
85.5	27.119
86.0	22.446
86.5	18.356
87.0	14.627
87.5	11.279
88.0	8.403
88.5	6.134
89.0	4.269
89.5	2.764
90.0	1.708
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 : HS4DR-TL-L40-835-DIM-UNV-LW-OF-WH-AD_.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

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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

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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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Zone	Lumens	%Lamp	%Fixt
0-20	453.83	N.A.	15.20
0-30	949.59	N.A.	31.70
0-40	1514.8	N.A.	50.60
0-60	2488.23	N.A.	83.10
0-80	2954.14	N.A.	98.70
0-90	2993.86	N.A.	100.00
10-90	2875.45	N.A.	96.00
20-40	1060.97	N.A.	35.40
20-50	1599.78	N.A.	53.40
40-70	1275.75	N.A.	42.60
60-80	465.91	N.A.	15.60
70-80	163.59	N.A.	5.50
80-90	39.71	N.A.	1.30
90-110	0.05	N.A.	0.00
90-120	0.05	N.A.	0.00
90-130	0.05	N.A.	0.00
90-150	0.05	N.A.	0.00
90-180	0.05	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	2993.9	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	118.40
10-20	335.43
20-30	495.76
30-40	565.20
40-50	538.81
50-60	434.62
60-70	302.32
70-80	163.59
80-90	39.71
90-100	0.05
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	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	81	98	91	85	80	87	82	78	84	80	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	53
5	78	66	57	51	76	65	56	50	62	55	50	60	54	49	59	53	49	47
6	72	59	51	45	70	58	50	44	57	49	44	55	49	44	53	48	43	41
7	67	54	46	40	65	53	45	40	52	45	39	50	44	39	49	43	39	37
8	63	49	41	36	61	49	41	35	48	40	35	46	40	35	45	39	35	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30
10	55	42	34	29	54	42	34	29	41	34	29	40	33	29	39	33	29	27

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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

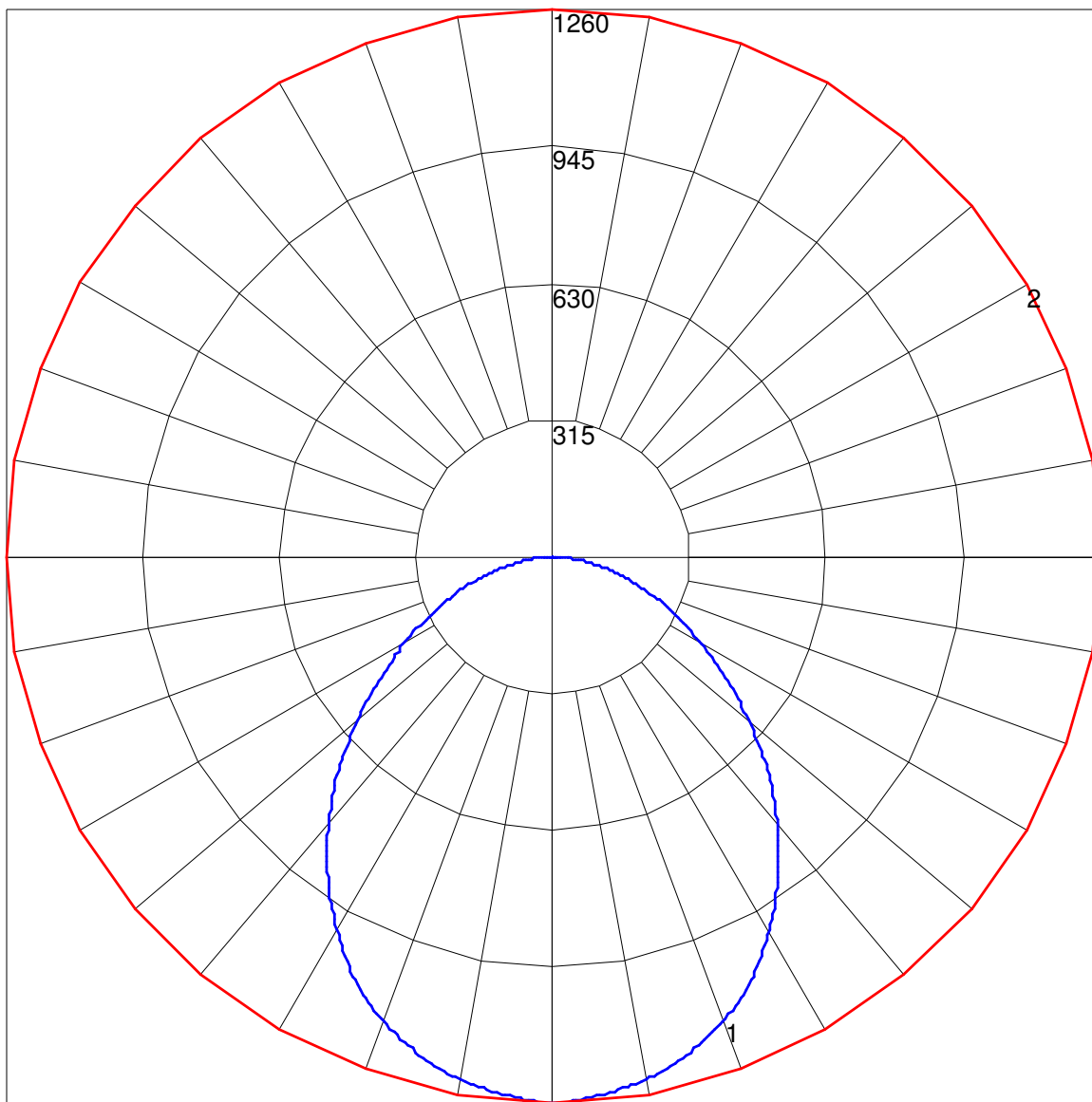
X=2H	Y=2H	26.5	28.1	26.9	28.4	28.7	26.5	28.1	26.9	28.4	28.7
	3H	28.1	29.5	28.5	29.9	30.2	28.1	29.5	28.5	29.9	30.2
	4H	28.7	30.0	29.1	30.4	30.7	28.7	30.0	29.1	30.4	30.7
	6H	29.1	30.3	29.5	30.7	31.1	29.1	30.3	29.5	30.7	31.1
	8H	29.2	30.4	29.6	30.8	31.2	29.2	30.4	29.6	30.8	31.2
	12H	29.3	30.4	29.7	30.8	31.2	29.3	30.4	29.7	30.8	31.2

UGR Viewed Endwise

4H	2H	27.1	28.4	27.5	28.8	29.1	27.1	28.4	27.5	28.8	29.1
	3H	28.9	30.0	29.3	30.4	30.8	28.9	30.0	29.3	30.4	30.8
	4H	29.6	30.6	30.0	31.0	31.4	29.6	30.6	30.0	31.0	31.4
	6H	30.1	31.0	30.6	31.4	31.9	30.1	31.0	30.6	31.4	31.9
	8H	30.2	31.1	30.7	31.5	32.0	30.2	31.1	30.7	31.5	32.0
	12H	30.3	31.1	30.8	31.5	32.0	30.3	31.1	30.8	31.5	32.0
8H	4H	29.8	30.6	30.3	31.1	31.6	29.8	30.6	30.3	31.1	31.6
	6H	30.4	31.1	30.9	31.6	32.1	30.4	31.1	30.9	31.6	32.1
	8H	30.7	31.3	31.2	31.8	32.3	30.7	31.3	31.2	31.8	32.3
	12H	30.8	31.3	31.3	31.8	32.4	30.8	31.3	31.3	31.8	32.4
12H	4H	29.9	30.6	30.3	31.1	31.5	29.9	30.6	30.3	31.1	31.5
	6H	30.5	31.1	31.0	31.6	32.1	30.5	31.1	31.0	31.6	32.1
	8H	30.7	31.3	31.3	31.8	32.3	30.7	31.3	31.3	31.8	32.3

Maximum UGR = 32.4

POLAR GRAPH



Maximum Candela = 1260.462 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.)