



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM 12316380.07
 [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
 [LUMINAIRE] Black formed aluminum housing, white reflector, clear patt
 [MORE] erved glass lens enclosure
 [LAMP] One white LED
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Commercial, Corridor, Hotel, Industrial, Office, Downlight
 [_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3889
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	70
Total Luminaire Watts	55.4
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	107323	107323	107323
55	88187	88187	88187
65	64515	64515	64515
75	44662	44662	44662
85	24347	24347	24347

IES INDOOR REPORT
PHOTOMETRIC FILENAME : HS4DR-TL-L40-835-DIM-UNV-LW-OF-WH_.IES

CANDELA TABULATION

	<u>0</u>
0.0	2731.919
0.5	2731.056
1.0	2729.330
1.5	2727.028
2.0	2724.726
2.5	2722.137
3.0	2718.684
3.5	2716.670
4.0	2715.232
4.5	2714.368
5.0	2713.217
5.5	2712.067
6.0	2711.203
6.5	2710.053
7.0	2709.189
7.5	2708.614
8.0	2708.326
8.5	2707.463
9.0	2706.600
9.5	2704.874
10.0	2703.723
10.5	2701.709
11.0	2699.695
11.5	2697.105
12.0	2694.228
12.5	2690.775
13.0	2686.747
13.5	2682.144
14.0	2676.389
14.5	2669.484
15.0	2661.140
15.5	2651.070
16.0	2639.848
16.5	2626.613
17.0	2612.227
17.5	2596.115
18.0	2577.125
18.5	2557.560
19.0	2536.269
19.5	2512.388
20.0	2486.205
20.5	2457.720
21.0	2426.934
21.5	2393.846
22.0	2357.305
22.5	2318.463
23.0	2276.743
23.5	2231.859
24.0	2183.521
24.5	2132.019
25.0	2076.201
25.5	2017.794
26.0	1955.358
26.5	1889.182

IES INDOOR REPORT
PHOTOMETRIC FILENAME : HS4DR-TL-L40-835-DIM-UNV-LW-OF-WH_.IES

CANDELA TABULATION - (Cont.)

27.0	1820.704
27.5	1749.349
28.0	1676.843
28.5	1604.050
29.0	1532.695
29.5	1462.778
30.0	1395.451
30.5	1332.152
31.0	1272.882
31.5	1218.790
32.0	1169.590
32.5	1125.280
33.0	1085.862
33.5	1050.760
34.0	1019.399
34.5	991.777
35.0	966.746
35.5	944.016
36.0	923.875
36.5	904.885
37.0	887.622
37.5	871.510
38.0	856.548
38.5	842.162
39.0	828.927
39.5	815.979
40.0	803.895
40.5	791.811
41.0	780.302
41.5	769.081
42.0	758.435
42.5	747.789
43.0	737.143
43.5	726.498
44.0	715.852
44.5	705.206
45.0	694.561
45.5	683.915
46.0	673.269
46.5	662.624
47.0	651.402
47.5	640.181
48.0	628.960
48.5	617.451
49.0	605.655
49.5	593.858
50.0	582.349
50.5	570.553
51.0	558.756
51.5	546.959
52.0	535.450
52.5	523.942
53.0	512.145
53.5	500.061
54.0	487.689
54.5	475.317

IES INDOOR REPORT
PHOTOMETRIC FILENAME : HS4DR-TL-L40-835-DIM-UNV-LW-OF-WH_.IES

CANDELA TABULATION - (Cont.)

55.0	462.945
55.5	450.572
56.0	438.488
56.5	426.692
57.0	414.895
57.5	403.098
58.0	391.590
58.5	380.368
59.0	369.147
59.5	358.214
60.0	347.568
60.5	336.922
61.0	326.564
61.5	316.494
62.0	306.424
62.5	296.354
63.0	286.744
63.5	277.191
64.0	267.812
64.5	258.576
65.0	249.541
65.5	240.737
66.0	232.048
66.5	223.589
67.0	215.331
67.5	207.217
68.0	199.363
68.5	191.680
69.0	183.998
69.5	176.575
70.0	169.353
70.5	162.246
71.0	155.312
71.5	148.551
72.0	142.020
72.5	135.575
73.0	129.302
73.5	123.203
74.0	117.218
74.5	111.435
75.0	105.795
75.5	100.329
76.0	94.977
76.5	89.769
77.0	84.792
77.5	79.843
78.0	75.067
78.5	70.434
79.0	65.888
79.5	61.515
80.0	57.228
80.5	53.056
81.0	48.941
81.5	44.942
82.0	41.029
82.5	37.231

IES INDOOR REPORT
PHOTOMETRIC FILENAME : HS4DR-TL-L40-835-DIM-UNV-LW-OF-WH_.IES

CANDELA TABULATION - (Cont.)

83.0	33.462
83.5	29.808
84.0	26.240
84.5	22.759
85.0	19.421
85.5	16.199
86.0	13.120
86.5	10.214
87.0	7.653
87.5	5.524
88.0	3.855
88.5	2.446
89.0	1.525
89.5	1.036
90.0	0.719
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_.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 : HS4DR-TL-L40-835-DIM-UNV-LW-OF-WH_.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 : HS4DR-TL-L40-835-DIM-UNV-LW-OF-WH_.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 : HS4DR-TL-L40-835-DIM-UNV-LW-OF-WH_.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1003.49	N.A.	25.80
0-30	1924.8	N.A.	49.50
0-40	2552.37	N.A.	65.60
0-60	3501.02	N.A.	90.00
0-80	3864.67	N.A.	99.40
0-90	3888.99	N.A.	100.00
10-90	3630.23	N.A.	93.30
20-40	1548.88	N.A.	39.80
20-50	2083.78	N.A.	53.60
40-70	1198.17	N.A.	30.80
60-80	363.65	N.A.	9.40
70-80	114.14	N.A.	2.90
80-90	24.32	N.A.	0.60
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	3889.01	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	258.76
10-20	744.72
20-30	921.31
30-40	627.57
40-50	534.90
50-60	413.75
60-70	249.52
70-80	114.14
80-90	24.32
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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : HS4DR-TL-L40-835-DIM-UNV-LW-OF-WH_.IES

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	103	97	91	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	70	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	58	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	69	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	47	42	39	37

IES INDOOR REPORT

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

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	25.3	26.7	25.7	27.0	27.3	25.3	26.7	25.7	27.0	27.3
	3H	26.4	27.6	26.8	28.0	28.3	26.4	27.6	26.8	28.0	28.3
	4H	26.8	27.9	27.2	28.3	28.6	26.8	27.9	27.2	28.3	28.6
	6H	27.0	28.0	27.4	28.4	28.8	27.0	28.0	27.4	28.4	28.8
	8H	27.0	28.0	27.5	28.4	28.8	27.0	28.0	27.5	28.4	28.8
	12H	27.0	28.0	27.5	28.4	28.8	27.0	28.0	27.5	28.4	28.8

UGR Viewed Endwise

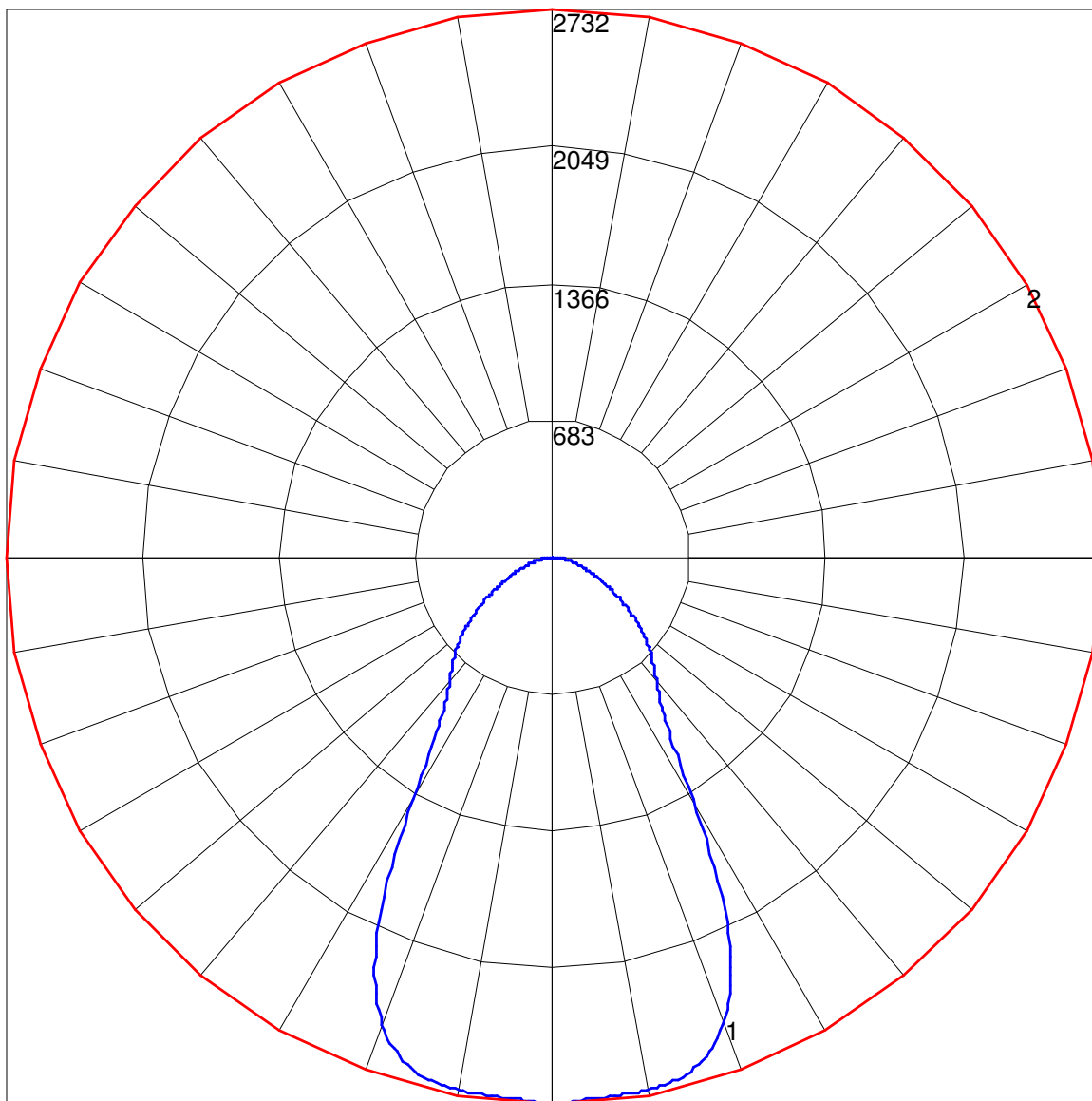
4H	2H	25.7	26.8	26.1	27.2	27.5	25.7	26.8	26.1	27.2	27.5
	3H	27.0	27.9	27.4	28.3	28.7	27.0	27.9	27.4	28.3	28.7
	4H	27.4	28.3	27.8	28.7	29.1	27.4	28.3	27.8	28.7	29.1
	6H	27.7	28.5	28.2	28.9	29.4	27.7	28.5	28.2	28.9	29.4
	8H	27.8	28.5	28.3	28.9	29.4	27.8	28.5	28.3	28.9	29.4
	12H	27.8	28.4	28.3	28.9	29.4	27.8	28.4	28.3	28.9	29.4

8H	4H	27.5	28.2	28.0	28.7	29.1	27.5	28.2	28.0	28.7	29.1
	6H	27.9	28.5	28.4	29.0	29.5	27.9	28.5	28.4	29.0	29.5
	8H	28.0	28.5	28.6	29.1	29.5	28.0	28.5	28.6	29.1	29.5
	12H	28.1	28.5	28.6	29.0	29.6	28.1	28.5	28.6	29.0	29.6

12H	4H	27.5	28.1	28.0	28.6	29.1	27.5	28.1	28.0	28.6	29.1
	6H	27.9	28.4	28.5	28.9	29.4	27.9	28.4	28.5	28.9	29.4
	8H	28.1	28.5	28.6	29.0	29.6	28.1	28.5	28.6	29.0	29.6

Maximum UGR = 29.6

POLAR GRAPH



Maximum Candela = 2731.919 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.)