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Photometric Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-10-2014, CIE 13.3-1995
CIE 15-2004, ANSI C78.377-2017, IES TM-30-2018

Prepared For
Hubbell Lighting Inc
701 Millennium Blvd
Greenville, SC 29607
United States

Catalog Number
P550102-020-30 (P20.01555)
Order Number
13646774
Test Number
13646774.31A

Revision of report #13646774.31 on 1/12/2021

Test Date

2021-01-05 - 2021-01-08

Prepared By

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The results contained in this report pertain only to the tested sample.
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Laboratory results may not be representative of field performance
Ballast factors have not been applied

Testing was performed in a 3-meter integrating sphere using the 4π geometry method.

Absorption correction was employed for Sphere measurement



Luminaire Description: Brown aluminum housing, frosted plastic diffuser on top and bottom, clear glass enclosure on top, no enclosure on bottom
Lamp: White LEDs
Mounting: Surface – Wall
Ballast/Driver: N/A

Luminaire



Luminaire Characteristics

Luminous Diameter: 5.00 in.

Summary of Results

Integrating Sphere

Luminous Flux: 846.8 Lumens
Efficacy: 23.22 lm/w
CCT: 3054 K
CRI (Ra): 93.6

Distribution

Total Luminaire Output: 876.0 Lumens
Luminaire Efficacy: 24.1 lm/w
Maximum Candela: 488 Candela

Electrical Data at 120 VAC

Test Temperature: 25.2 °C
Voltage: 120.1 VAC
Current: 0.3328 A
Power: 36.47 W
Power Factor: 0.912
Frequency: 60 Hz
Current THD: 44.8 %



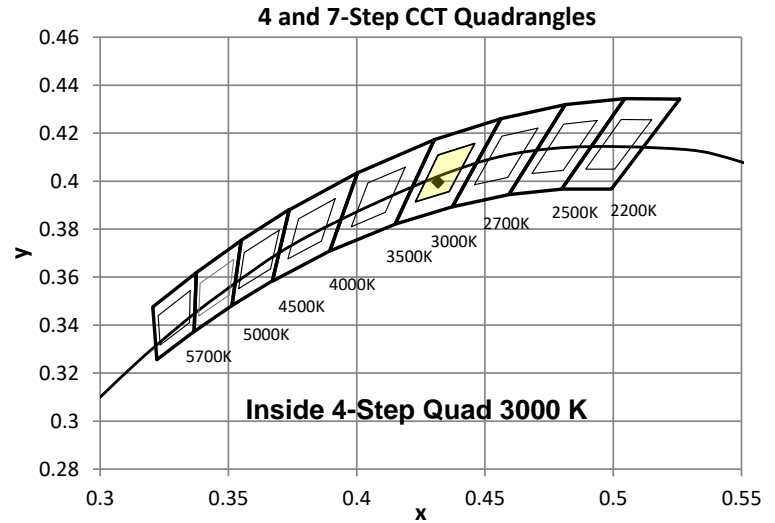
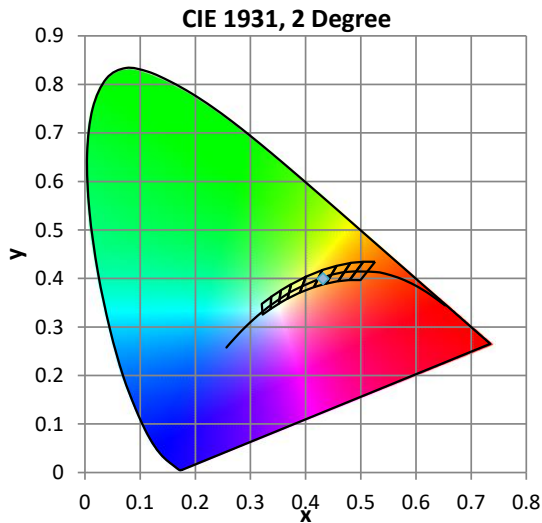
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.2 °C	120.1 VAC	0.3328 A	36.47 W	0.912	60 Hz	44.8 %

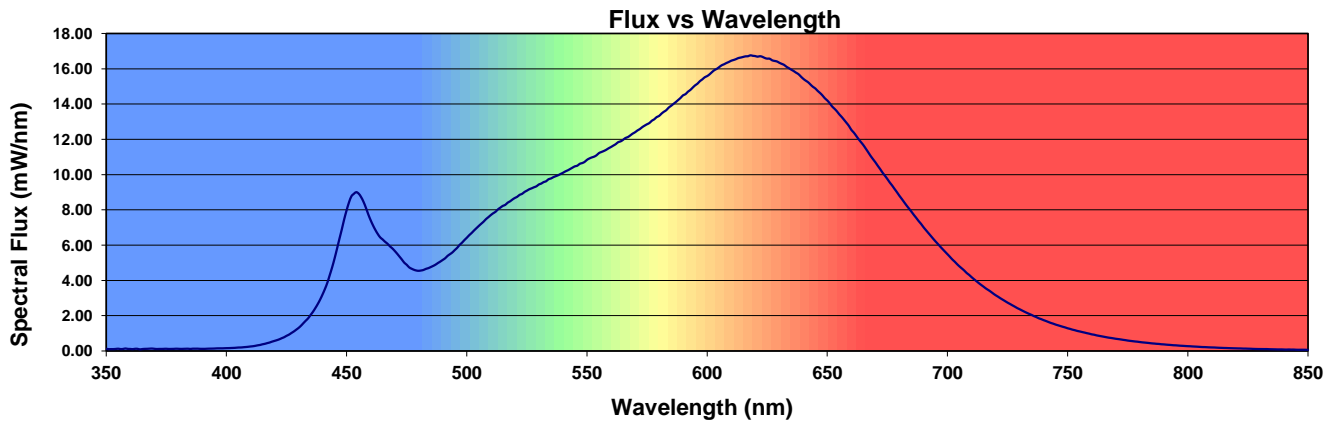
Summary of Results

Total Output:	847 Lumens	Chromaticity (x):	0.4316
Efficacy:	23.2 lm/w	Chromaticity (y):	0.3996
CCT:	3054 K	Chromaticity (u'):	0.2490
CRI (Ra):	93.6	Chromaticity (v'):	0.5188
CRI (R9):	62.9	TM-30 Rf:	92
Peak Wavelength:	618 nm	TM-30 Rg:	99
Dominant Wavelength:	583 nm	TM-30 Rcs,h1:	-5%
S/P Ratio:	1.46	Duv:	-0.0010



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93.6	94.2	97.7	98.6	93.3	93.8	96.4	92.0	83.1	62.9	93.4	94.1	82.6	95.4	99.1	90.7





Distribution - Goniophotometer

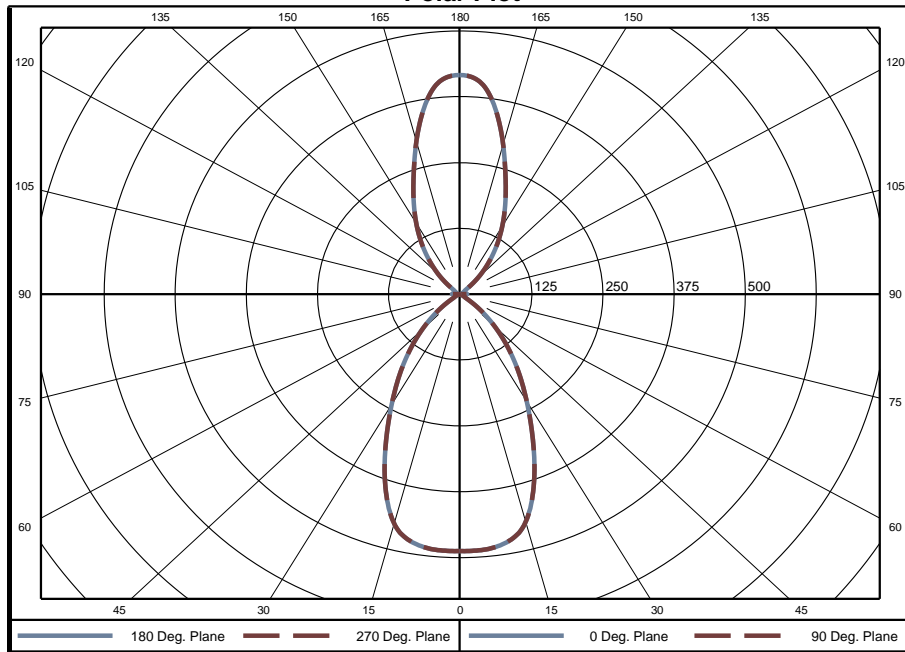
Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	119.9 VAC	0.3324 A	36.34 W	0.912	60 Hz	44.9 %

Summary of Results

Spacing Criteria	Total Lumen Output:	876.0 Lumens
0-180: 0.89	Luminaire Efficacy:	24.1 lm/w
90-270: 0.89	Maximum Candela:	488 Candela
Corrected UGR (Room Dimension: X=4H, Y=8H, Reflectances: 70/50/20%, S/H: 1)	Endwise:	4.4
Crosswise: 4.4		

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	11.66	1.3%	60-65	3.17	0.4%	120-125	4.38	0.5%
5-10	34.58	3.9%	65-70	1.65	0.2%	125-130	6.50	0.7%
10-15	55.22	6.3%	70-75	0.94	0.1%	130-135	14.98	1.7%
15-20	68.54	7.8%	75-80	0.67	0.1%	135-140	24.45	2.8%
20-25	71.82	8.2%	80-85	0.53	0.1%	140-145	32.56	3.7%
25-30	68.06	7.8%	85-90	0.43	0.0%	145-150	38.94	4.4%
30-35	61.13	7.0%	90-95	7.05	0.8%	150-155	42.94	4.9%
35-40	51.99	5.9%	95-100	6.16	0.7%	155-160	44.42	5.1%
40-45	40.64	4.6%	100-105	4.91	0.6%	160-165	43.42	5.0%
45-50	27.93	3.2%	105-110	3.67	0.4%	165-170	38.64	4.4%
50-55	14.84	1.7%	110-115	3.15	0.4%	170-175	27.38	3.1%
55-60	5.37	0.6%	115-120	3.45	0.4%	175-180	9.83	1.1%

Zone	Lumens	% of Luminaire
0-40	423	48.3%
0-60	512	58.4%
0-90	519	59.3%
90-180	357	40.7%



Candela Tabulation
Horizontal Angle (Degrees)

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	487.9	487.9	487.9	487.9	487.9	487.9	487.9	487.9	487.9	487.9	487.9	487.9	487.9	487.9	487.9	487.9
5	487.1	487.1	487.1	487.1	487.1	487.1	487.1	487.1	487.1	487.1	487.1	487.1	487.1	487.1	487.1	487.1
10	478.4	478.4	478.4	478.4	478.4	478.4	478.4	478.4	478.4	478.4	478.4	478.4	478.4	478.4	478.4	478.4
15	448.2	448.2	448.2	448.2	448.2	448.2	448.2	448.2	448.2	448.2	448.2	448.2	448.2	448.2	448.2	448.2
20	382.3	382.3	382.3	382.3	382.3	382.3	382.3	382.3	382.3	382.3	382.3	382.3	382.3	382.3	382.3	382.3
25	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3	305.3
30	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8	236.8
35	181.2	181.2	181.2	181.2	181.2	181.2	181.2	181.2	181.2	181.2	181.2	181.2	181.2	181.2	181.2	181.2
40	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3
45	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8
50	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1
55	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5
60	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
65	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
70	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
75	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
85	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
90	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
95	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
100	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
105	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
110	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
115	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
120	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
125	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
130	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
135	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6	51.6
140	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6
145	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7	114.7
150	150.9	150.9	150.9	150.9	150.9	150.9	150.9	150.9	150.9	150.9	150.9	150.9	150.9	150.9	150.9	150.9
155	190.3	190.3	190.3	190.3	190.3	190.3	190.3	190.3	190.3	190.3	190.3	190.3	190.3	190.3	190.3	190.3
160	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3	236.3
165	295.4	295.4	295.4	295.4	295.4	295.4	295.4	295.4	295.4	295.4	295.4	295.4	295.4	295.4	295.4	295.4
170	359.1	359.1	359.1	359.1	359.1	359.1	359.1	359.1	359.1	359.1	359.1	359.1	359.1	359.1	359.1	359.1
175	405.1	405.1	405.1	405.1	405.1	405.1	405.1	405.1	405.1	405.1	405.1	405.1	405.1	405.1	405.1	405.1
180	415.9	415.9	415.9	415.9	415.9	415.9	415.9	415.9	415.9	415.9	415.9	415.9	415.9	415.9	415.9	415.9

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

	0	45	90
0	38520	38520	38520
45	9908	9908	9908
55	2550	2550	2550
65	844	844	844
75	435	435	435
85	781	781	781

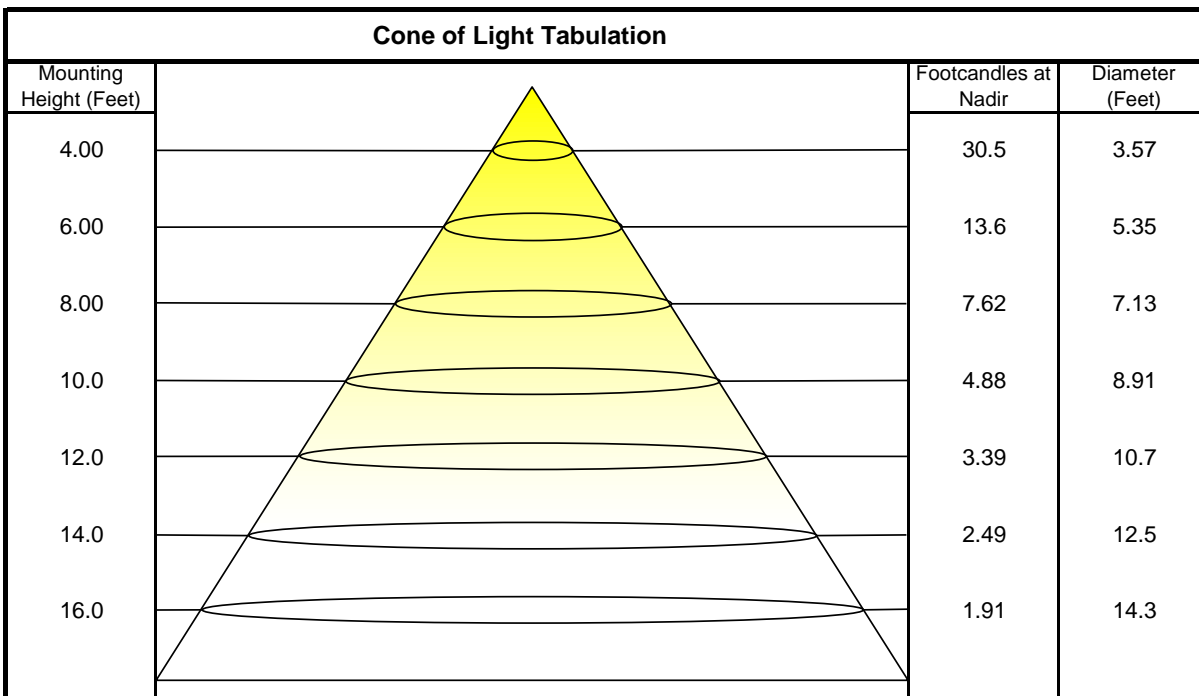


Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as percent of total lumen output delivered to the task surface **																	
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	65	65	65	59
1	102	99	96	93	96	93	90	88	81	79	78	71	69	68	61	60	59	55
2	95	89	84	80	89	84	80	76	74	71	68	65	63	61	57	55	54	50
3	89	81	75	70	83	77	71	67	68	64	61	60	57	55	53	51	49	46
4	83	74	67	62	78	70	64	60	63	58	55	56	52	50	49	47	45	42
5	77	68	61	56	73	64	58	54	58	53	49	52	48	45	46	43	41	39
6	72	62	55	50	68	59	53	48	53	49	45	48	44	42	43	40	38	36
7	68	57	50	46	64	55	48	44	50	45	41	45	41	38	40	37	35	33
8	64	53	46	42	60	51	45	40	46	41	38	42	38	35	38	35	33	31
9	60	49	43	38	57	47	41	37	43	38	35	39	35	33	36	33	30	29
10	57	46	39	35	53	44	38	34	40	36	32	37	33	30	34	31	28	27

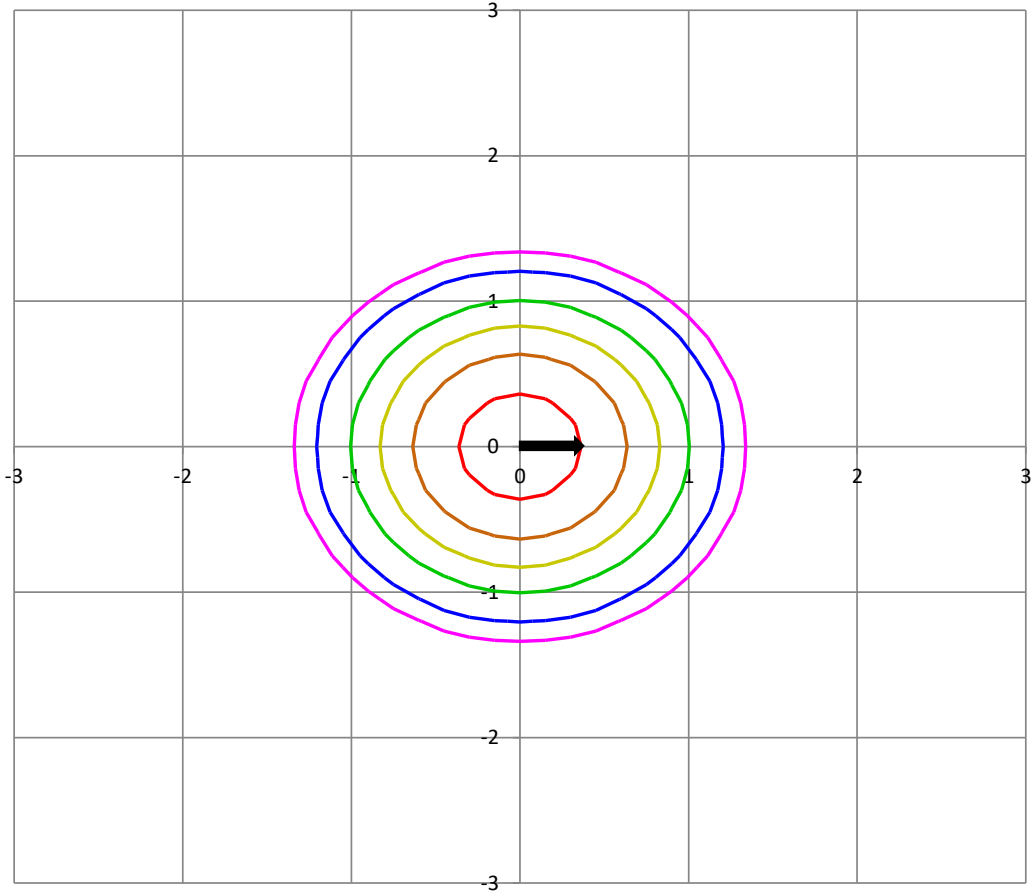
Beam and Field Information	
CIE Type:	Direct/Indirect
Center Beam Intensity:	487.9 Candela
Central Cone Intensity:	488 Candela
Beam Flux:	415.3 Lumens
Beam Angle (0-180):	58.9 Degrees
Beam Angle (90-270):	58.9 Degrees
Field Angle (0-180):	100.7 Degrees
Field Angle (90-270):	100.7 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

