

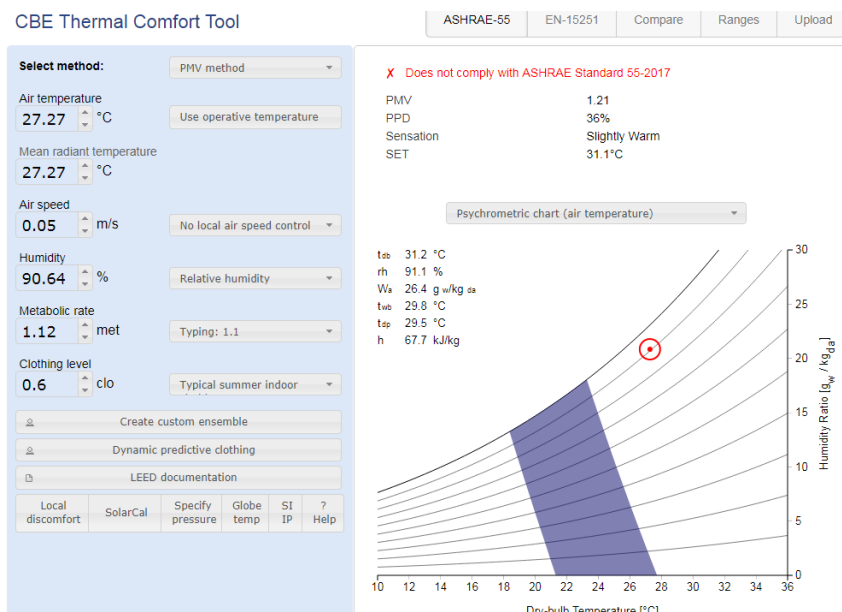
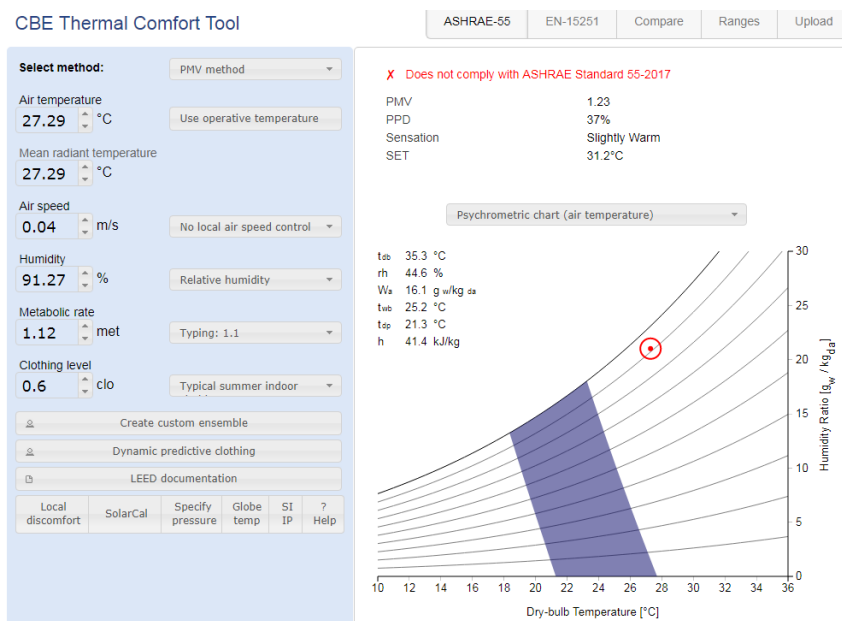
## LAMPIRAN

Foto kondisi eksisting Gedung A Teknik Pengairan





Hasil perhitungan kalkulator online terhadap PMV dan PPD eksisting



CBE Thermal Comfort Tool

ASHRAE-55 EN-15251 Compare Ranges Upload

Select method: PMV method

Air temperature: 28.29 °C

Mean radiant temperature: 28.29 °C

Air speed: 0.05 m/s

Humidity: 91.36 %

Metabolic rate: 1.12 met

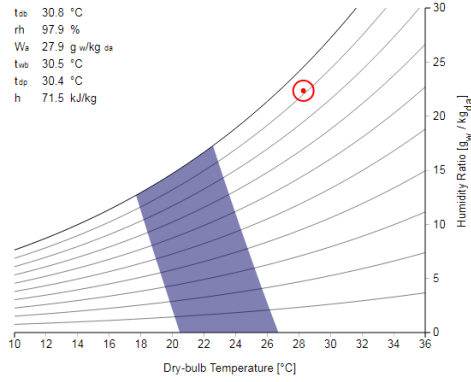
Clothing level: 0.6 clo

Local discomfort	SolarCal	Specify pressure	Globe temp	SI IP	? Help
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**X Does not comply with ASHRAE Standard 55-2017**

PMV 1.56  
 PPD 54%  
 Sensation Warm  
 SET 32.9°C

Psychrometric chart (air temperature)



ASHRAE-55 EN-15251 Compare Ranges Upload

CBE Thermal Comfort Tool

Select method: PMV method

Air temperature: 27.58 °C

Mean radiant temperature: 27.58 °C

Air speed: 0.05 m/s

Humidity: 90.55 %

Metabolic rate: 1.12 met

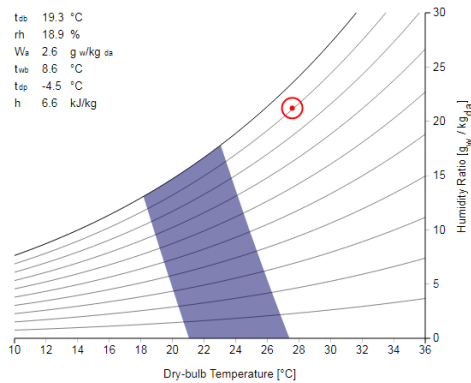
Clothing level: 0.6 clo

Local discomfort	SolarCal	Specify pressure	Globe temp	SI IP	? Help
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**X Does not comply with ASHRAE Standard 55-2017**

PMV 1.32  
 PPD 41%  
 Sensation Slightly Warm  
 SET 31.6°C

Psychrometric chart (air temperature)



## Persepsi Pemakai Gedung

Persepsi pengguna ruang kelas 2 (lantai 2)

	Respon Termal	Tingkat Kenyamanan					Keterangan ( Rata-rata dari 58 responden)	
		-2	-1	0	1	2		
Pengukuran	Temperatur Udara		●				27,29°C	4.3.1.A (hal. 55)
	Radiasi Matahari		●				Terik	4.1.4 (hal. 40)
	Kelembaban Relatif	●					91,27%	4.3.2.A (hal. 62)
	Kecepatan Angin	●					0,04m/s	4.3.3.A (hal. 66)
	Indeks PMV & PPD	●					1,23	4.3.4.A (hal. 72)
	Indeks PPD	●					37%	4.3.4.A (hal. 72)
Kuesioner	Sensasi Termal				●		46%	4.2.3.A.1 (hal. 41)
	Temperatur Udara			●			68%	4.2.3.A.2 (hal. 42)
	Kelembaban Udara			●			72%	4.2.3.A.3 (hal. 43)
	Kecepatan Angin			●			82%	4.2.3.A.4 (hal. 44)
	Radiasi Matahari			●			36%	4.2.3.A.5 (hal. 45)

Keterangan :

Skala nilai 2 = Baik; 1 = Agak baik; 0 = Netral; -1 = Agak buruk; -2 = Buruk

Persepsi pengguna ruang kelas 4 (lantai 2)

	Respon Termal	Tingkat Kenyamanan					Keterangan ( Rata-rata dari 60 responden)	
		-2	-1	0	1	2		
Pengukuran	Temperatur Udara		●				27,27°C	4.3.1.B (hal. 56)
	Radiasi Matahari				●		Teduh	4.1.4 (hal. 40)
	Kelembaban Relatif	●					90,64%	4.3.2.B (hal. 63)
	Kecepatan Angin	●					0,05m/s	4.3.3.B (hal. 67)
	Indeks PMV & PPD	●					1,21	4.3.4.B (hal. 72)
	Indeks PPD	●					36%	4.3.4.B (hal. 72)
Kuesioner	Sensasi Termal				●		45%	4.2.3.B.1 (hal. 46)
	Temperatur Udara			●			70%	4.2.3.B.2 (hal. 47)
	Kelembaban Udara			●			65%	4.2.3.B.3 (hal. 48)
	Kecepatan Angin			●			80%	4.2.3.B.4 (hal. 49)
	Radiasi Matahari			●			55%	4.2.3.B.5 (hal. 50)

Keterangan :

Skala nilai 2 = Baik; 1 = Agak baik; 0 = Netral; -1 = Agak buruk; -2 = Buruk

Persepsi pengguna ruang kelas 2 (lantai 4)

	Respon Termal	Tingkat Kenyamanan					Keterangan ( Rata-rata dari 17 responden)	
		-2	-1	0	1	2		
Pengukuran	Temperatur Udara		●				28,29°C	4.3.1.C (hal. 58)
	Radiasi Matahari			●			Terik	4.1.4 (hal. 40)
	Kelembaban Relatif	●					91,36%	4.3.2.C (hal. 64)
	Kecepatan Angin	●					0,05m/s	4.3.3.C (hal. 68)
	Indeks PMV & PPD	●					1,56	4.3.4.C (hal. 73)
	Indeks PPD	●					54%	4.3.4.C (hal. 73)
Kuesioner	Sensasi Termal					●	47%	4.2.3.C.1 (hal. 50)
	Temperatur Udara			●			35%	4.2.3.C.2 (hal. 52)
	Kelembaban Udara			●			72%	4.2.3.C.3 (hal. 53)
	Kecepatan Angin			●			100%	4.2.3.C.4 (hal. 54)
	Radiasi Matahari			●			47%	4.2.3.C.5 (hal. 55)

Keterangan :

Skala nilai 2 = Baik; 1 = Agak baik; 0 = Netral; -1 = Agak buruk; -2 = Buruk